

## FIGURE 1A

GCTCAGCAGC AGGTCGCGGC CGCAGCCCCA TCCAGCCCCG GCCCGC <sup>ATG</sup> CCGTCCGGGG	60
GCCCCGGCTG AGCTGCGGCC TCCGCGCGCG GGCGGGCCTG GGGACGGCGG GGCCATGCGC	120
GCGCTGCCCT AACG ATG CCG CCC GCC GCG CCC GCC CGC CTG CG CG CTG GCC Met Pro Pro Ala Ala Pro Ala Arg Leu Ala Leu Ala	170
1 5 10	
CTG GGC CTG GGC CTG TGG CTC GGG GCG CTG GCG GGG GGC CCC GGG CGC Leu Gly Leu Gly Leu Trp Leu Gly Ala Leu Ala Gly Gly Pro Gly Arg	218
15 20 25	
GGC TGC GGG CCC TGC GAG CCC CCC TGC CTC TGC GGC CCA GCG CCC GGC Gly Cys Gly Pro Cys Glu Pro Pro Cys Leu Cys Gly Pro Ala Pro Gly	266
30 35 40	
GCC GCC TGC CGC GTC AAC TGC TCG GGC CGC GGG CTG CGG ACG CTC GGT Ala Ala Cys Arg Val Asn Cys Ser Gly Arg Gly Leu Arg Thr Leu Gly	314
45 50 55 60	
CCC GCG CTG CGC ATC CCC GCG GAC GCC ACA GCG CTA GAC GTC TCC CAC Pro Ala Leu Arg Ile Pro Ala Asp Ala Thr Ala Leu Asp Val Ser His	362
65 70 75	
AAC CTG CTC CGG GCG CTG GAC GTT GGG CTC CTG GCG AAC CTC TCG GCG Asn Leu Leu Arg Ala Leu Asp Val Gly Leu Leu Ala Asn Leu Ser Ala	410
80 85 90	
CTG GCA GAG CTG GAT ATA AGC AAC AAC AAG ATT TCT ACG TTA GAA GAA Leu Ala Glu Leu Asp Ile Ser Asn Asn Lys Ile Ser Thr Leu Glu Glu	458
95 100 105	
GGA ATA TTT GCT AAT TTA TTT AAT TTA AGT GAA ATA AAC CTG AGT GGG Gly Ile Phe Ala Asn Leu Phe Asn Leu Ser Glu Ile Asn Leu Ser Gly	506
110 115 120	
AAC CCG TTT GAG TGT GAC TGT GGC CTG GCG TGG CTG CCG CGA TGG GCG Asn Pro Phe Glu Cys Asp Cys Gly Leu Ala Trp Leu Pro Arg Trp Ala	554
125 130 135 140	
GAG GAG CAG CAG GTG CGG GTG GTG CAG CCC GAG GCA GCC ACG TGT GCT Glu Glu Gln Gln Val Arg Val Val Gln Pro Glu Ala Ala Thr Cys Ala	602
145 150 155	
GGG CCT GGC TCC CTG GCT GGC CAG CCT CTG CTT GGC ATC CCC TTG CTG Gly Pro Gly Ser Leu Ala Gly Gln Pro Leu Leu Gly Ile Pro Leu Leu	650
160 165 170	
GAC AGT GGC TGT GGT GAG GAG TAT GTC GCC TGC CTC CCT GAC AAC AGC Asp Ser Gly Cys Gly Glu Glu Tyr Val Ala Cys Leu Pro Asp Asn Ser	698
175 180 185	
TCA GGC ACC GTG GCA GCA GTG TCC TTT TCA GCT GCC CAC GAA GGC CTG Ser Gly Thr Val Ala Ala Val Ser Phe Ser Ala Ala His Glu Gly Leu	746
190 195 200	
CTT CAG CCA GAG GCC TGC AGC GCC TTC TGC TTC TCC ACC GGC CAG GGC Leu Gln Pro Glu Ala Cys Ser Ala Phe Cys Phe Ser Thr Gly Gln Gly	794
205 210 215 220	
CTC GCA GCC CTC TCG GAG CAG GGC TGG TGC CTG TGT GGG GCG GCC CAG Leu Ala Ala Leu Ser Glu Gln Gly Trp Cys Leu Cys Gly Ala Ala Gln	843
225 230 235	
CCC TCC AGT GCC TCC TTT GCC TGC CTG TCC CTC TGC TCC GGC CCC CCG Pro Ser Ser Ala Ser Phe Ala Cys Leu Ser Leu Cys Ser Gly Pro Pro	890
240 245 250	

Substituted

## FIGURE 1B

CCA CCT CCT GCC CCC ACC TGT AGG GGC CCC ACC CTC CTC CAG CAC GTC Pro Pro Pro Ala Pro Thr Cys Arg Gly Pro Thr Leu Leu Gln His Val 255 260 265	938
TTC CCT GCC TCC CCA GGG GCC ACC CTG GTG GGG CCC CAC GGA CCT CTG Phe Pro Ala Ser Pro Gly Ala Thr Leu Val Gly Pro His Gly Pro Leu 270 275 280	986
GCC TCT GGC CAG CTA GCA GCC TTC CAC ATC GCT GCC CCG CTC CCT GTC Ala Ser Gly Gln Leu Ala Ala Phe His Ile Ala Ala Pro Leu Pro Val 285 290 295 300	1034
ACT GCC ACA CGC TGG GAC TTC GGA GAC GGC TCC GCC GAG GTG GAT GCC Thr Ala Thr Arg Trp Asp Phe Gly Asp Gly Ser Ala Glu Val Asp Ala 305 310 315	1082
GCT GGG CCG GCT GCC TCG CAT CGC TAT GTG CTG CCT GGG CGC TAT CAC Ala Gly Pro Ala Ala Ser His Arg Tyr Val Leu Pro Gly Arg Tyr His 320 325 330	1130
G TG ACG GCC GTG CTG GCC CTG GGG GCC GGC TCA GCC CTG CTG GGG ACA Val Thr Ala Val Leu Ala Leu Gly Ala Gly Ser Ala Leu Leu Gly Thr 335 340 345	1178
GAC GTG CAG GTG GAA GCG GCA CCT GCC GCC CTG GAG CTC GTG TGC CCG Asp Val Gln Val Glu Ala Ala Pro Ala Ala Leu Glu Leu Val Cys Pro 350 355 360	1226
TCC TCG GTG CAG AGT GAC GAG AGC CTC GAC CTC AGC ATC CAG AAC CGC Ser Ser Val Gln Ser Asp Glu Ser Leu Asp Leu Ser Ile Gln Asn Arg 365 370 375 380	1274
GGT GGT TCA GGC CTG GAG GCC GCC TAC AGC ATC GTG GCC CTG GGC GAG Gly Gly Ser Gly Leu Glu Ala Ala Tyr Ser Ile Val Ala Leu Gly Glu 385 390 395	1322
GAG CCG GCC CGA GCG GTG CAC CCG CTC TGC CCC TCG GAC ACG GAG ATC Glu Pro Ala Arg Ala Val His Pro Leu Cys Pro Ser Asp Thr Glu Ile 400 405 410	1370
TTC CCT GGC AAC GGG CAC TGC TAC CGC CTG GTG GTG GAG AAG GCG GCC Phe Pro Gly Asn Gly His Cys Tyr Arg Leu Val Val Glu Lys Ala Ala 415 420 425	1418
TGG CTG CAG GCG CAG GAG CAG TGT CAG GCC TGG GCC GGG GCC GGC CTG Trp Leu Gln Ala Gln Glu Gln Cys Gln Ala Trp Ala Gly Ala Ala Leu 430 435 440	1466
GCA ATG GTG GAC AGT CCC GCC GTG CAG CGC TTC CTG GTC TCC CGG GTC Ala Met Val Asp Ser Pro Ala Val Gln Arg Phe Leu Val Ser Arg Val 445 450 455 460	1514
ACC AGG TGC CTA GAC GTG TGG ATC GGC TTC TCG ACT GTG CAG GGG GTG Thr Arg Cys Leu Asp Val Trp Ile Gly Phe Ser Thr Val Gln Gly Val 465 470 475	1562
GAG GTG GGC CCA GCG CCG CAG GGC GAG GCC TTC AGC CTG GAG AGC TGC Glu Val Gly Pro Ala Pro Gln Gly Glu Ala Phe Ser Leu Glu Ser Cys 480 485 490	1610

## FIGURE 1C

CAG AAC TGG CTG CCC GGG GAG CCA CAC CCA GCC ACA GGC GAG CAC TGC Gln Asn Trp Leu Pro Gly Glu Pro His Pro Ala Thr Ala Glu His Cys 495 500 505	1658
GTC CGG CTC GGG CCC ACC GGG TGG TGT AAC ACC GAC CTG TGC TCA GCG Val Arg Leu Gly Pro Thr Gly Trp Cys Asn Thr Asp Leu Cys Ser Ala 510 515 520	1706
CCG CAC AGC TAC GTC TGC GAG CTG CAG CCC GGA GGC CCA GTG CAG GAT Pro His Ser Tyr Val Cys Glu Leu Gln Pro Gly Gly Pro Val Gln Asp 525 530 535 540	1754
GCC GAG AAC CTC CTC GTG GGA GCG CCC AGT GGG GAC CTG CAG GGA CCC Ala Glu Asn Leu Leu Val Gly Ala Pro Ser Gly Asp Leu Gln Gly Pro 545 550 555	1802
CTG ACG CCT CTG GCA CAG CAG GAC GGC CTC TCA GCC CCG CAC GAG CCC Leu Thr Pro Leu Ala Gln Gln Asp Gly Leu Ser Ala Pro His Glu Pro 560 565 570	1850
GTG GAG GTC ATG GTA TTC CCG GGC CTG CGT CTG AGC CGT GAA GCC TTC Val Glu Val Met Val Phe Pro Gly Leu Arg Leu Ser Arg Glu Ala Phe 575 580 585	1898
CTC ACC ACG GCC GAA TTT GGG ACC CAG GAG CTC CGG CGG CCC GCC CAG Leu Thr Thr Ala Glu Phe Gly Thr Gln Glu Leu Arg Arg Pro Ala Gln 590 595 600	1946
CTG CGG CTG CAG GTG TAC CGG CTC CTC AGC ACA GCA GGG ACC CCG GAG Leu Arg Leu Gln Val Tyr Arg Leu Leu Ser Thr Ala Gly Thr Pro Glu 605 610 615 620	1994
AAC GGC AGC GAG CCT GAG AGC AGG TCC CCG GAC AAC AGG ACC CAG CTG Asn Gly Ser Glu Pro Glu Ser Arg Ser Pro Asp Asn Arg Thr Gln Leu 625 630 635	2042
GCC CCC GCG TGC ATG CCA GGG GGA CGC TGG TGC CCT GGA GCC AAC ATC Ala Pro Ala Cys Met Pro Gly Gly Arg Trp Cys Pro Gly Ala Asn Ile 640 645 650	2090
TGC TTG CCG CTG GAC GCC TCC TGC CAC CCC CAG GCC TGC GCC AAT GGC Cys Leu Pro Leu Asp Ala Ser Cys His Pro Gln Ala Cys Ala Asn Gly 655 660 665	2138
TGC ACG TCA GGG CCA GGG CTA CCC GGG GCC CCC TAT GCG CTA TGG AGA Cys Thr Ser Gly Pro Gly Leu Pro Gly Ala Pro Tyr Ala Leu Trp Arg 670 675 680	2186
GAG TTC CTC TTC TCC GTT CCC GCG GGG CCC CCC GCG CAG TAC TCG GTC Glu Phe Leu Phe Ser Val Pro Ala Gly Pro Pro Ala Gln Tyr Ser Val 685 690 695 700	2234
ACC CTC CAC GGC CAG GAT GTC CTC ATG CTC CCT GGT GAC CTC GTT GGC Thr Leu His Gly Gln Asp Val Leu Met Leu Pro Gly Asp Leu Val Gly 705 710 715	2282
TTG CAG CAC GAC GCT GGC CCT GGC GCC CTC CTG CAC TGC TCG CCG GCT Leu Gln His Asp Ala Gly Pro Gly Ala Leu Leu His Cys Ser Pro Ala 720 725 730	2330

## FIGURE 1D

CCC GGC CAC CCT GGT CCC CGG GCC CCG TAC CTC TCC GCC AAC GCC TCG Pro Gly His Pro Gly Pro Arg Ala Pro Tyr Leu Ser Ala Asn Ala Ser 735 740 745	2378
TCA TGG CTG CCC CAC TTG CCA GCC CAG CTG GAG GGC ACT TGG GCC TGC Ser Trp Leu Pro His Leu Pro Ala Gln Leu Glu Gly Thr Trp Ala Cys 750 755 760	2426
CCT GCC TGT GCC CTG CGG CTG CTT GCA GCC ACG GAA CAG CTC ACC GTG Pro Ala Cys Ala Leu Arg Leu Ala Ala Thr Glu Gln Leu Thr Val 765 770 775 780	2474
CTG CTG GGC TTG AGG CCC AAC CCT GGA CTG CGG CTG CCT GGG CGC TAT Leu Leu Gly Leu Arg Pro Asn Pro Gly Leu Arg Leu Pro Gly Arg Tyr 785 790 795	2522
GAG GTC CGG GCA GAG GTG GGC AAT GGC GTG TCC AGG CAC AAC CTC TCC Glu Val Arg Ala Glu Val Gly Asn Gly Val Ser Arg His Asn Leu Ser 800 805 810	2570
TGC AGC TTT GAC GTG GTC TCC CCA GTG GCT GGG CTG CGG GTC ATC TAC Cys Ser Phe Asp Val Val Ser Pro Val Ala Gly Leu Arg Val Ile Tyr 815 820 825	2618
CCT GCC CCC CGC GAC GGC CGC CTC TAC GTG CCC ACC AAC GGC TCA GCC Pro Ala Pro Arg Asp Gly Arg Leu Tyr Val Pro Thr Asn Gly Ser Ala 830 835 840	2666
TTG GTG CTC CAG GTG GAC TCT GGT GCC AAC GCC ACG GGC ACG GCT CGC Leu Val Leu Gln Val Asp Ser Gly Ala Asn Ala Thr Ala Thr Ala Arg 845 850 855 860	2714
TGG CCT GGG GGC AGT GTC AGC GCC CGC TTT GAG AAT GTC TGC CCT GCC Trp Pro Gly Gly Ser Val Ser Ala Arg Phe Glu Asn Val Cys Pro Ala 865 870 875	2762
CTG GTG GCC ACC TTC GTG CCC GGC TGC CCC TGG GAG ACC AAC GAT ACC Leu Val Ala Thr Phe Val Pro Gly Cys Pro Trp Glu Thr Asn Asp Thr 880 885 890	2810
CTG TTC TCA GTG GTA GCA CTG CCG TGG CTC AGT GAG GGG GAG CAC GTG Leu Phe Ser Val Val Ala Leu Pro Trp Leu Ser Glu Gly Glu His Val 895 900 905	2858
GTG GAC GTG GTG GTG GAA AAC AGC GCC AGC CGG GCC AAC CTC AGC CTG Val Asp Val Val Val Glu Asn Ser Ala Ser Arg Ala Asn Leu Ser Leu 910 915 920	2906
CGG GTG ACG GCG GAG GAG CCC ATC TGT GGC CTC CGC GCC ACG CCC AGC Arg Val Thr Ala Glu Glu Pro Ile Cys Gly Leu Arg Ala Thr Pro Ser 925 930 935 940	2954
CCC GAG GCC CGT GTA CTG CAG GGA GTC CTA GTG AGG TAC AGC CCC GTG Pro Glu Ala Arg Val Leu Gln Gly Val Leu Val Arg Tyr Ser Pro Val 945 950 955	3002
GTG GAG GCC GGC TCG GAC ATG GTC TTC CGG TGG ACC ATC AAC GAC AAG Val Glu Ala Gly Ser Asp Met Val Phe Arg Trp Thr Ile Asn Asp Lys 960 965 970	3050

## FIGURE 1E

CAG TCC CTG ACC TTC CAG AAC GTG GTC TTC AAT GTC ATT TAT CAG AGC Gln Ser Leu Thr Phe Gln Asn Val Val Phe Asn Val Ile Tyr Gln Ser 975 980 985	3098
GCG GCG GTC TTC AAG CTC TCA CTG ACG GCC TCC AAC CAC GTG AGC AAC Ala Ala Val Phe Lys Leu Ser Leu Thr Ala Ser Asn His Val Ser Asn 990 995 1000	3146
GTC ACC GTG AAC TAC AAC GTA ACC GTG GAG CGG ATG AAC AGG ATG CAG Val Thr Val Asn Tyr Asn Val Thr Val Glu Arg Met Asn Arg Met Gln 1005 1010 1015 1020	3194
GGT CTG CAG GTC TCC ACA GTG CCG GCC GTG CTG TCC CCC AAT GCC ACG Gly Leu Gln Val Ser Thr Val Pro Ala Val Leu Ser Pro Asn Ala Thr 1025 1030 1035	3242
CTA GCA CTG ACG GCG GGC GTG CTG GTG GAC TCG GCC GTG GAG GTG GCC Leu Ala Leu Thr Ala Gly Val Leu Val Asp Ser Ala Val Glu Val Ala 1040 1045 1050	3290
TTC CTG TGG ACC TTT GGG GAT GGG GAG CAG GCC CTC CAC CAG TTC CAG Phe Leu Trp Thr Phe Gly Asp Gly Glu Gln Ala Leu His Gln Phe Gln 1055 1060 1065	3338
CCT CCG TAC AAC GAG TCC TTC CCG GTT CCA GAC CCC TCG GTG GCC CAG Pro Pro Tyr Asn Glu Ser Phe Pro Val Pro Asp Pro Ser Val Ala Gln 1070 1075 1080	3386
GTG CTG GTG GAG CAC AAT GTC ATG CAC ACC TAC GCT GCC CCA GGT GAG Val Leu Val Glu His Asn Val Met His Thr Tyr Ala Ala Pro Gly Glu 1085 1090 1095 1100	3434
TAC CTC CTG ACC GTG CTG GCA TCT AAT GCC TTC GAG AAC CTG ACG CAG Tyr Leu Leu Thr Val Leu Ala Ser Asn Ala Phe Glu Asn Leu Thr Gln 1105 1110 1115	3482
CAG GTG CCT GTG AGC GTG CGC GCC TCC CTG CCC TCC GTG GCT GTG GGT Gln Val Pro Val Ser Val Arg Ala Ser Leu Pro Ser Val Ala Val Gly 1120 1125 1130	3530
GTG AGT GAC GGC GTC CTG GTG GCC GGC CGG CCC GTC ACC TTC TAC CCG Val Ser Asp Gly Val Leu Val Ala Gly Arg Pro Val Thr Phe Tyr Pro 1135 1140 1145	3578
CAC CCG CTG CCC TCG CCT GGG GGT GTT CTT TAC ACG TGG GAC TTC GGG His Pro Leu Pro Ser Pro Gly Gly Val Leu Tyr Thr Trp Asp Phe Gly 1150 1155 1160	3626
GAC GGC TCC CCT GTC CTG ACC CAG AGC CAG CGG GCT GCC AAC CAC ACC Asp Gly Ser Pro Val Leu Thr Gln Ser Gln Pro Ala Ala Asn His Thr 1165 1170 1175 1180	3674
TAT GCC TCG AGG GGC ACC TAC CAC GTG CGC CTG GAG GTC AAC AAC ACG Tyr Ala Ser Arg Gly Thr Tyr His Val Arg Leu Glu Val Asn Asn Thr 1185 1190 1195	3722
GTG AGC GGT GCG GCG GCC CAG GCG GAT GTG CGC GTC TTT GAG GAG CTC Val Ser Gly Ala Ala Ala Gln Ala Asp Val Arg Val Phe Glu Glu Leu 1200 1205 1210	3770

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## FIGURE 1F

CGC GGA CTC AGC GTG GAC ATG AGC CTG GCC GTG GAG CAG GGC GCC CCC Arg Gly Leu Ser Val Asp Met Ser Leu Ala Val Glu Gln Gly Ala Pro 1215 1220 1225	3818
GTG GTG GTC AGC GCC GCG GTG CAG ACG GGC GAC AAC ATC ACG TGG ACC Val Val Val Ser Ala Ala Val Gln Thr Gly Asp Asn Ile Thr Trp Thr 1230 1235 1240	3866
TTC GAC ATG GGG GAC GGC ACC GTG CTG TCG GGC CCG GAG GCA ACA GTG Phe Asp Met Gly Asp Gly Thr Val Leu Ser Gly Pro Glu Ala Thr Val 1245 1250 1255 1260	3914
GAG CAT GTG TAC CTG CGG GCA CAG AAC TGC ACA GTG ACC GTG GGT GCG Glu His Val Tyr Leu Arg Ala Gln Asn Cys Thr Val Thr Val Gly Ala 1265 1270 1275	3962
GCC AGC CCC GCC GGC CAC CTG GCC CGG AGC CTG CAC GTG CTG GTC TTC Ala Ser Pro Ala Gly His Leu Ala Arg Ser Leu His Val Leu Val Phe 1280 1285 1290	4010
GTC CTG GAG GTG CTG CGC GTT GAA CCC GCC GGC TGC ATC CCC ACG CAG Val Leu Glu Val Leu Arg Val Glu Pro Ala Ala Cys Ile Pro Thr Gln 1295 1300 1305	4058
CCT GAC GCG CGG CTC ACG GCC TAC GTC ACC GGG AAC CCG GCC CAC TAC Pro Asp Ala Arg Leu Thr Ala Tyr Val Thr Gly Asn Pro Ala His Tyr 1310 1315 1320	4106
CTC TTC GAC TGG ACC TTC GGG GAT GGC TCC TCC AAC ACG ACC GTG CGG Leu Phe Asp Trp Thr Phe Gly Asp Gly Ser Ser Asn Thr Thr Val Arg 1325 1330 1335 1340	4154
GGG TGC CCG ACG GTG ACA CAC AAC TTC ACG CGG AGC GGC ACG TTC CCC Gly Cys Pro Thr Val Thr His Asn Phe Thr Arg Ser Gly Thr Phe Pro 1345 1350 1355	4202
CTG GCG CTG GTG CTG TCC AGC CGC GTG AAC AGG GCG CAT TAC TTC ACC Leu Ala Leu Val Leu Ser Ser Arg Val Asn Arg Ala His Tyr Phe Thr 1360 1365 1370	4250
AGC ATC TGC GTG GAG CCA GAG GTG GGC AAC GTC ACC CTG CAG CCA GAG Ser Ile Cys Val Glu Pro Glu Val Gly Asn Val Thr Leu Gln Pro Glu 1375 1380 1385	4298
AGG CAG TTT GTG CAG CTC GGG GAC GAG GGC TGG CTG GTG GCA TGT GCC Arg Gln Phe Val Gln Leu Gly Asp Glu Ala Trp Leu Val Ala Cys Ala 1390 1395 1400	4346
TGG CCC CCG TTC CCC TAC CGC TAC ACC TGG GAC TTT GGC ACC GAG GAA Trp Pro Pro Phe Pro Tyr Arg Tyr Thr Trp Asp Phe Gly Thr Glu Glu 1405 1410 1415 1420	4394
GCC GCC CCC ACC CGT GCC AGG GGC CCT GAG GTG ACG TTC ATC TAC CGA Ala Ala Pro Thr Arg Ala Arg Gly Pro Glu Val Thr Phe Ile Tyr Arg 1425 1430 1435	4442
GAC CCA GGC TCC TAT CTT GTG ACA GTC ACC GCG TCC AAC AAC ATC TCT Asp Pro Gly Ser Tyr Leu Val Thr Val Thr Ala Ser Asn Asn Ile Ser 1440 1445 1450	4490

## FIGURE 1G

GCT GCC AAT GAC TCA GCC CTG GTG GAG GTG CAG GAG CCC GTG CTG GTC Ala Ala Asn Asp Ser Ala Leu Val Glu Val Gln Glu Pro Val Leu Val 1455 1460 1465	4538
ACC AGC ATC AAG GTC AAT GGC TCC CTT GGG CTG GAG CTG CAG CAG CCG Thr Ser Ile Lys Val Asn Gly Ser Leu Gly Leu Glu Leu Gln Gln Pro 1470 1475 1480	4586
TAC CTG TTC TCT GCT GTG GGC CGT GGG CGC CCC GCC AGC TAC CTG TGG Tyr Leu Phe Ser Ala Val Gly Arg Pro Ala Ser Tyr Leu Trp 1485 1490 1495 1500	4634
GAT CTG GGG GAC GGT GGG TGG CTC GAG GGT CCG GAG GTC ACC CAC GCT Asp Leu Gly Asp Gly Gly Trp Leu Glu Gly Pro Glu Val Thr His Ala 1505 1510 1515	4682
TAC AAC AGC ACA GGT GAC TTC ACC GTT AGG GTG GCC GGC TGG AAT GAG Tyr Asn Ser Thr Gly Asp Phe Thr Val Arg Val Ala Gly Trp Asn Glu 1520 1525 1530	4730
GTG AGC CGC AGC GAG GCC TGG CTC AAT GTG ACG GTG AAG CGG CGC GTG Val Ser Arg Ser Glu Ala Trp Leu Asn Val Thr Val Lys Arg Arg Val 1535 1540 1545	4778
CGG GGG CTC GTC GTC AAT GCA AGC CGC ACG GTG GTG CCC CTG AAT GGG Arg Gly Leu Val Val Asn Ala Ser Arg Thr Val Val Pro Leu Asn Gly 1550 1555 1560	4826
AGC GTG AGC TTC AGC ACG TCG CTG GAG GCC GGC AGT GAT GTG CGC TAT Ser Val Ser Phe Ser Thr Ser Leu Glu Ala Gly Ser Asp Val Arg Tyr 1565 1570 1575 1580	4874
TCC TGG GTG CTC TGT GAC CGC TGC ACG CCC ATC CCT GGG GGT CCT ACC Ser Trp Val Leu Cys Asp Arg Cys Thr Pro Ile Pro Gly Gly Pro Thr 1585 1590 1595	4922
ATC TCT TAC ACC TTC CGC TCC GTG GCC ACC TTC AAT ATC ATC GTC ACG Ile Ser Tyr Thr Phe Arg Ser Val Gly Thr Phe Asn Ile Ile Val Thr 1600 1605 1610	4970
GCT GAG AAC GAG GTG GGC TCC GCC CAG GAC AGC ATC TTC GTC TAT GTC Ala Glu Asn Glu Val Gly Ser Ala Gln Asp Ser Ile Phe Val Tyr Val 1615 1620 1625	5018
CTG CAG CTC ATA GAG GGG CTG CAG GTG GTG GGC GGT GGC CGC TAC TTC Leu Gln Leu Ile Glu Gly Leu Gln Val Val Gly Gly Arg Tyr Phe 1630 1635 1640	5066
CCC ACC AAC CAC ACG GTA CAG CTG CAG GCC GTG GTT AGG GAT GGC ACC Pro Thr Asn His Thr Val Gln Leu Gln Ala Val Val Arg Asp Gly Thr 1645 1650 1655 1660	5114
AAC GTC TCC TAC AGC TGG ACT GCC TGG AGG GAC AGG GGC CCG GCC CTG Asn Val Ser Tyr Ser Trp Thr Ala Trp Arg Asp Arg Gly Pro Ala Leu 1665 1670 1675	5162
GCC GGC AGC GGC AAA GGC TTC TCG CTC ACC GTG CTC GAG GCC GGC ACC Ala Gly Ser Gly Lys Gly Phe Ser Leu Thr Val Leu Glu Ala Gly Thr 1680 1685 1690	5210

## FIGURE 1H

TAC CAT GTG CAG CTG CGG GCC ACC AAC ATG CTG GGC AGC GCC TGG GCC Tyr His Val Gln Leu Arg Ala Thr Asn Met Leu Gly Ser Ala Trp Ala 1695 1700 1705	5258
GAC TGC ACC ATG GAC TTC GTG GAG CCT GTG GGG TGG CTG ATG GTG GCC Asp Cys Thr Met Asp Phe Val Glu Pro Val Gly Trp Leu Met Val Ala 1710 1715 1720	5306
GCC TCC CCG AAC CCA GCT GCC GTC AAC ACA AGC GTC ACC CTC AGT GCC Ala Ser Pro Asn Pro Ala Ala Val Asn Thr Ser Val Thr Leu Ser Ala 1725 1730 1735 1740	5354
GAG CTG GCT GGT GGC AGT GGT GTC GTA TAC ACT TGG TCC TTG GAG GAG Glu Leu Ala Gly Gly Ser Gly Val Val Tyr Thr Trp Ser Leu Glu Glu 1745 1750 1755	5402
GGG CTG AGC TGG GAG ACC TCC GAG CCA TTT ACC ACC CAT AGC TTC CCC Gly Leu Ser Trp Glu Thr Ser Glu Pro Phe Thr Thr His Ser Phe Pro 1760 1765 1770	5450
ACA CCC GGC CTG CAC TTG GTC ACC ATG ACG GCA GGG AAC CCG CTG GGC Thr Pro Gly Leu His Leu Val Thr Met Thr Ala Gly Asn Pro Leu Gly 1775 1780 1785	5498
TCA GCC AAC GCC ACC GTG GAA GTG GAT GTG CAG GTG CCT GTG AGT GGC Ser Ala Asn Ala Thr Val Glu Val Asp Val Gln Val Pro Val Ser Gly 1790 1795 1800	5546
CTC AGC ATC AGG GCC AGC GAG CCC GGA GGC AGC TTC GTG GCG GCC GGG Leu Ser Ile Arg Ala Ser Glu Pro Gly Ser Phe Val Ala Ala Gly 1805 1810 1815 1820	5594
TCC TCT GTG CCC TTT TGG GGG CAG CTG GCC ACG GGC ACC AAT GTG AGC Ser Ser Val Pro Phe Trp Gly Gln Leu Ala Thr Gly Thr Asn Val Ser 1825 1830 1835	5642
TGG TGC TGG GCT GTG CCC GGC GGC AGC AGC AAG CGT GGC CCT CAT GTC Trp Cys Trp Ala Val Pro Gly Gly Ser Ser Lys Arg Gly Pro His Val 1840 1845 1850	5690
ACC ATG GTC TTC CCG GAT GCT GGC ACC TTC TCC ATC CGG CTC AAT GCC Thr Met Val Phe Pro Asp Ala Gly Thr Phe Ser Ile Arg Leu Asn Ala 1855 1860 1865	5738
TCC AAC GCA GTC AGC TGG GTC TCA GCC ACG TAC AAC CTC ACG GCG GAG Ser Asn Ala Val Ser Trp Val Ser Ala Thr Tyr Asn Leu Thr Ala Glu 1870 1875 1880	5786
GAG CCC ATC GTG GGC CTG GTG CTG TGG GCC AGC AGC AAG GTG GTG GCG Glu Pro Ile Val Gly Leu Val Leu Trp Ala Ser Ser Lys Val Val Ala 1885 1890 1895 1900	5834
CCC GGG CAG CTG GTC CAT TTT CAG ATC CTG CTG GCT GCC GGC TCA GCT Pro Gly Gln Leu Val His Phe Gln Ile Leu Leu Ala Ala Gly Ser Ala 1905 1910 1915	5882
GTC ACC TTC CGC CTG CAG GTC GGC GGG GCC AAC CCC GAG GTG CTC CCC Val Thr Phe Arg Leu Gln Val Gly Gly Ala Asn Pro Glu Val Leu Pro 1920 1925 1930	5930

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## FIGURE 1I

GGG CCC CGT TTC TCC CAC AGC TTC CCC CGC GTC GGA GAC CAC GTG GTG Gly Pro Arg Phe Ser His Ser Phe Pro Arg Val Gly Asp His Val Val 1935 1940 1945	5978
AGC GTG CGG GGC AAA AAC CAC GTG AGC TGG GCC CAG GCG CAG GTG CGC Ser Val Arg Gly Lys Asn His Val Ser Trp Ala Gln Ala Gln Val Arg 1950 1955 1960	6026
ATC GTG GTG CTG GAG GCC GTG AGT GGG CTG CAG GTG CCC AAC TGC TGC Ile Val Val Leu Glu Ala Val Ser Gly Leu Gln Val Pro Asn Cys Cys 1965 1970 1975 1980	6074
GAG CCT GGC ATC GCC ACG GGC ACT GAG AGG AAC TTC ACA GCC CGC GTG Glu Pro Gly Ile Ala Thr Gly Thr Glu Arg Asn Phe Thr Ala Arg Val 1985 1990 1995	6122
CAG CGC GGC TCT CGG GTC GCC TAC GCC TGG TAC TTC TCG CTG CAG AAG Gln Arg Gly Ser Arg Val Ala Tyr Ala Trp Tyr Phe Ser Leu Gln Lys 2000 2005 2010	6170
GTC CAG GGC GAC TCG CTG GTC ATC CTG TCG GGC CGC GAC GTC ACC TAC Val Gln Gly Asp Ser Leu Val Ile Leu Ser Gly Arg Asp Val Thr Tyr 2015 2020 2025	6218
ACG CCC GTG GCC GCG GGG CTG TTG GAG ATC CAG GTG CGC GCC TTC AAC Thr Pro Val Ala Ala Gly Leu Leu Glu Ile Gln Val Arg Ala Phe Asn 2030 2035 2040	6266
GCC CTG GGC AGT GAG AAC CGC ACG CTG GTG CTG GAG GTT CAG GAC GCC Ala Leu Gly Ser Glu Asn Arg Thr Leu Val Leu Glu Val Gln Asp Ala 2045 2050 2055 2060	6314
GTC CAG TAT GTG GCC CTG CAG AGC GGC CCC TGC TTC ACC AAC CGC TCG Val Gln Tyr Val Ala Leu Gln Ser Gly Pro Cys Phe Thr Asn Arg Ser 2065 2070 2075	6362
GCG CAG TTT GAG GCC GCC ACC AGC CCC AGC CCC CGG CGT GTG GCC TAC Ala Gln Phe Glu Ala Ala Thr Ser Pro Ser Pro Arg Arg Val Ala Tyr 2080 2085 2090	6410
CAC TGG GAC TTT GGG GAT GGG TCG CCA GGG CAG GAC ACA GAT GAG CCC His Trp Asp Phe Gly Asp Gly Ser Pro Gly Gln Asp Thr Asp Glu Pro 2095 2100 2105	6458
AGG GCC GAG CAC TCC TAC CTG AGG CCT GGG GAC TAC CGC GTG CAG GTG Arg Ala Glu His Ser Tyr Leu Arg Pro Gly Asp Tyr Arg Val Gln Val 2110 2115 2120	6506
AAC GCC TCC AAC CTG GTG AGC TTC TTC GTG GCG CAG GCC ACG GTG ACC Asn Ala Ser Asn Leu Val Ser Phe Phe Val Ala Gln Ala Thr Val Thr 2125 2130 2135 2140	6554
GTC CAG GTG CTG GCC TGC CGG GAG CCG GAG GTG GAC GTG GTG GTC CTG CCC Val Gln Val Leu Ala Cys Arg Glu Pro Glu Val Asp Val Val Leu Pro 2145 2150 2155	6602
CTG CAG GTG CTG ATG CGG CGA TCA CAG CGC AAC TAC TTG GAG GCC CAC Leu Gln Val Leu Met Arg Arg Ser Gln Arg Asn Tyr Leu Glu Ala His 2160 2165 2170	6650

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## FIGURE 1J

GTT GAC CTG CGC GAC TGC GTC ACC TAC CAG ACT GAG TAC CGC TGG GAG	6698
Val Asp Leu Arg Asp Cys Val Thr Tyr Gln Thr Glu Tyr Arg Trp Glu	
2175 2180 2185	
GTG TAT CGC ACC GCC AGC TGC CAG CGG CCG GGG CGC CCA GCG CGT GTG	6746
Val Tyr Arg Thr Ala Ser Cys Gln Arg Pro Gly Arg Pro Ala Arg Val	
2190 2195 2200	
GCC CTG CCC GCC GTG GAC GTG AGC CGG CCT CGG CTG GTG CTG CCG CGG	6794
Ala Leu Pro Gly Val Asp Val Ser Arg Pro Arg Leu Val Leu Pro Arg	
2205 2210 2215 2220	
CTG GCG CTG CCT GTG GGG CAC TAC TGC TTT GTG TTT GTC GTG TCA TTT	6842
Leu Ala Leu Pro Val Gly His Tyr Cys Phe Val Phe Val Val Ser Phe	
2225 2230 2235	
GGG GAC ACG CCA CTG ACA CAG AGC ATC CAG GCC AAT GTG ACG GTG GCC	6890
Gly Asp Thr Pro Leu Thr Gln Ser Ile Gln Ala Asn Val Thr Val Ala	
2240 2245 2250	
CCC GAG CGC CTG GTG CCC ATC ATT GAG GGT GGC TCA TAC CGC GTG TGG	6938
Pro Glu Arg Leu Val Pro Ile Ile Glu Gly Ser Tyr Arg Val Trp	
2255 2260 2265	
TCA GAC ACA CGG GAC CTG GTG CTG GAT GGG AGC GAG TCC TAC GAC CCC	6986
Ser Asp Thr Arg Asp Leu Val Leu Asp Gly Ser Glu Ser Tyr Asp Pro	
2270 2275 2280	
AAC CTG GAG GAC GGC GAC CAG ACG CCG CTC AGT TTC CAC TGG GCC TGT	7034
Asn Leu Glu Asp Gly Asp Gln Thr Pro Leu Ser Phe His Trp Ala Cys	
2285 2290 2295 2300	
GTG GCT TCG ACA CAG AGG GAG GCT GGC GGG TGT GCG CTG AAC TTT GGG	7082
Val Ala Ser Thr Gln Arg Glu Ala Gly Gly Cys Ala Leu Asn Phe Gly	
2305 2310 2315	
CCC CGC GGG AGC ACG GTC ACC ATT CCA CGG GAG CGG CTG GCG GCT	7130
Pro Arg Gly Ser Ser Thr Val Thr Ile Pro Arg Glu Arg Leu Ala Ala	
2320 2325 2330	
GGC GTG GAG TAC ACC TTC AGC CTG ACC GTG TGG AAG GCC GGC CGC AAG	7178
Gly Val Glu Tyr Thr Phe Ser Leu Thr Val Trp Lys Ala Gly Arg Lys	
2335 2340 2345	
GAG GAG GCC ACC AAC CAG ACG GTG CTG ATC CGG AGT GGC CGG GTG CCC	7226
Glu Glu Ala Thr Asn Gln Thr Val Leu Ile Arg Ser Gly Arg Val Pro	
2350 2355 2360	
ATT GTG TCC TTG GAG TGT GTG TCC TGC AAG GCA CAG GCC GTG TAC GAA	7274
Ile Val Ser Leu Glu Cys Val Ser Cys Lys Ala Gln Ala Val Tyr Glu	
2365 2370 2375 2380	
GTG AGC CGC AGC TCC TAC GTG TAC TTG GAG GGC CGC TGC CTC AAT TGC	7322
Val Ser Arg Ser Ser Tyr Val Tyr Leu Glu Gly Arg Cys Leu Asn Cys	
2385 2390 2395	
AGC AGC GGC TCC AAG CGA GGG CGG TGG GCT GCA CGT ACG TTC AGC AAC	7370
Ser Ser Gly Ser Lys Arg Gly Arg Trp Ala Ala Arg Thr Phe Ser Asn	
2400 2405 2410	

## FIGURE 1K

AAG ACG CTG GTG CTG GAT GAG ACC ACC ACA TCC ACG GGC AGT GCA GGC	7418
Lys Thr Leu Val Leu Asp Glu Thr Thr Thr Ser Thr Gly Ser Ala Gly	
2415 2420 2425	
ATG CGA CTG GTG CTG CGG CGG GGC GTG CTG CGG GAC GGC GAG GGA TAC	7466
Met Arg Leu Val Leu Arg Arg Gly Val Leu Arg Asp Gly Glu Gly Tyr	
2430 2435 2440	
ACC TTC ACG CTC ACG GTG CTG GGC CGC TCT GGC GAG GAG GGC TGC	7514
Thr Phe Thr Leu Thr Val Leu Gly Arg Ser Gly Glu Glu Gly Cys	
2445 2450 2455 2460	
GCC TCC ATC CGC CTG TCC CCC AAC CGC CCG CCG CTG GGG GGC TCT TGC	7562
Ala Ser Ile Arg Leu Ser Pro Asn Arg Pro Pro Leu Gly Gly Ser Cys	
2465 2470 2475	
CGC CTC TTC CCA CTG GGC GCT GTG CAC GCC CTC ACC ACC AAG GTG CAC	7610
Arg Leu Phe Pro Leu Gly Ala Val His Ala Leu Thr Thr Lys Val His	
2480 2485 2490	
TTC GAA TGC ACG GGC TGG CAT GAC GCG GAG GAT GCT GGC GCC CCG CTG	7658
Phe Glu Cys Thr Gly Trp His Asp Ala Glu Asp Ala Gly Ala Pro Leu	
2495 2500 2505	
GTG TAC GCC CTG CTG CGG CGC TGT CGC CAG GGC CAC TGC GAG GAG	7706
Val Tyr Ala Leu Leu Leu Arg Arg Cys Arg Gln Gly His Cys Glu Glu	
2510 2515 2520	
TTC TGT GTC TAC AAG GGC AGC CTC TCC AGC TAC GGA GCC GTG CTG CCC	7754
Phe Cys Val Tyr Lys Gly Ser Leu Ser Ser Tyr Gly Ala Val Leu Pro	
2525 2530 2535 2540	
CCG GGT TTC AGG CCA CAC TTC GAG GTG GGC CTG GCC GTG GTG GTG CAG	7802
Pro Gly Phe Arg Pro His Phe Glu Val Gly Leu Ala Val Val Val Gln	
2545 2550 2555	
GAC CAG CTG GGA GCC GCT GTG GTC GCC CTC AAC AGG TCT TTG GCC ATC	7850
Asp Gln Leu Gly Ala Ala Val Val Ala Leu Asn Arg Ser Leu Ala Ile	
2560 2565 2570	
ACC CTC CCA GAG CCC AAC GGC AGC GCA ACG GGG CTC ACA GTC TGG CTG	7898
Thr Leu Pro Glu Pro Asn Gly Ser Ala Thr Gly Leu Thr Val Trp Leu	
2575 2580 2585	
CAC GGG CTC ACC GCT AGT GTG CTC CCA GGG CTG CTG CGG CAG GCC GAT	7946
His Gly Leu Thr Ala Ser Val Leu Pro Gly Leu Leu Arg Gln Ala Asp	
2590 2595 2600	
CCC CAG CAC GTC ATC GAG TAC TCG TTG GCC CTG GTC ACC GTG CTG AAC	7994
Pro Gln His Val Ile Glu Tyr Ser Leu Ala Leu Val Thr Val Leu Asn	
2605 2610 2615 2620	
GAG TAC GAG CGG GCC CTG GAC GTG GCG GCA GAG CCC AAG CAC GAG CGG	8042
Glu Tyr Glu Arg Ala Leu Asp Val Ala Ala Glu Pro Lys His Glu Arg	
2625 2630 2635	
CAG CAC CGA GCC CAG ATA CGC AAG AAC ATC ACG GAG ACT CTG GTG TCC	8090
Gln His Arg Ala Gln Ile Arg Lys Asn Ile Thr Glu Thr Leu Val Ser	
2640 2645 2650	

## FIGURE 1L

CTG AGG GTC CAC ACT GTG GAT GAC ATC CAG CAG ATC GCT GCT GCG CTG Leu Arg Val His Thr Val Asp Asp Ile Gln Gln Ile Ala Ala Ala Leu 2655 2660 2665	8138
GCC CAG TGC ATG GGG CCC AGC AGG GAG CTC GTA TGC CGC TCG TGC CTG Ala Gln Cys Met Gly Pro Ser Arg Glu Leu Val Cys Arg Ser Cys Leu 2670 2675 2680	8186
AAG CAG ACG CTG CAC AAG CTG GAG GCC ATG ATG CTC ATC CTG CAG GCA Lys Gln Thr Leu His Lys Leu Glu Ala Met Met Leu Ile Leu Gln Ala 2685 2690 2695 2700	8234
GAG ACC ACC GCG GGC ACC GTG ACG CCC ACC GCC ATC GGA GAC AGC ATC Glu Thr Thr Ala Gly Thr Val Thr Pro Thr Ala Ile Gly Asp Ser Ile 2705 2710 2715	8282
CTC AAC ATC ACA GGA GAC CTC ATC CAC CTG GCC AGC TCG GAC GTG CGG Leu Asn Ile Thr Gly Asp Leu Ile His Leu Ala Ser Ser Asp Val Arg 2720 2725 2730	8330
GCA CCA CAG CCC TCA GAG CTG GGA GCC GAG TCA CCA TCT CGG ATG GTG Ala Pro Gln Pro Ser Glu Leu Gly Ala Glu Ser Pro Ser Arg Met Val 2735 2740 2745	8378
GCG TCC CAG GCC TAC AAC CTG ACC TCT GCC CTC ATG CGC ATC CTC ATG Ala Ser Gln Ala Tyr Asn Leu Thr Ser Ala Leu Met Arg Ile Leu Met 2750 2755 2760	8426
CGC TCC CGC GTG CTC AAC GAG GAG CCC CTG ACG CTG GCG GGC GAG GAG Arg Ser Arg Val Leu Asn Glu Glu Pro Leu Thr Leu Ala Gly Glu Glu 2765 2770 2775 2780	8474
ATC GTG GCC CAG GGC AAG CGC TCG GAC CCG CGG AGC CTG CTG TGC TAT Ile Val Ala Gln Gly Lys Arg Ser Asp Pro Arg Ser Leu Leu Cys Tyr 2785 2790 2795	8522
GGC GGC CCA GGG CCT GGC TGC CAC TTC TCC ATC CCC GAG GCT TTC Gly Gly Ala Pro Gly Pro Gly Cys His Phe Ser Ile Pro Glu Ala Phe 2800 2805 2810	8570
AGC GGG GCC CTG GCC AAC CTC AGT GAC GTG GTG CAG CTC ATC TTT CTG Ser Gly Ala Leu Ala Asn Leu Ser Asp Val Val Gln Leu Ile Phe Leu 2815 2820 2825	8618
GTG GAC TCC AAT CCC TTT CCC TTT GGC TAT ATC AGC AAC TAC ACC GTC Val Asp Ser Asn Pro Phe Pro Phe Gly Tyr Ile Ser Asn Tyr Thr Val 2830 2835 2840	8666
TCC ACC AAG GTG GCC TCG ATG GCA TTC CAG ACA CAG GGC GCC CAG Ser Thr Lys Val Ala Ser Met Ala Phe Gln Thr Gln Ala Gly Ala Gln 2845 2850 2855 2860	8714
ATC CCC ATC GAG CGG CTG GCC TCA GAG CGC GCC ATC ACC GTG AAG GTG Ile Pro Ile Glu Arg Leu Ala Ser Glu Arg Ala Ile Thr Val Lys Val 2865 2870 2875	8762
CCC AAC AAC TCG GAC TGG GCT GCC CGG GGC CAC CGC AGC TCC GCC AAC Pro Asn Asn Ser Asp Trp Ala Ala Arg Gly His Arg Ser Ser Ala Asn 2880 2885 2890	8810

08 830506

## FIGURE 1M

TCC	GCC	AAC	TCC	GTT	GTG	GTC	CAG	CCC	CAG	GCC	TCC	GTC	GGT	GCT	GTG	8858
Ser	Ala	Asn	Ser	Val	Val	Val	Gln	Pro	Gln	Ala	Ser	Val	Gly	Ala	Val	
2895				2900								2905				
GTC	ACC	CTG	GAC	AGC	AAC	CCT	GCG	GCC	GGG	CTG	CAT	CTG	CAG	CTC	8906	
Val	Thr	Leu	Asp	Ser	Ser	Asn	Pro	Ala	Ala	Gly	Leu	His	Leu	Gln	Leu	
2910		2915									2920					
AAC	TAT	ACG	CTG	CTG	GAC	GAC	TAC	CTG	TCT	GAG	GAA	CCT	GAG	CCC	8954	
Asn	Tyr	Thr	Leu	Leu	Asp	Gly	His	Tyr	Leu	Ser	Glu	Glu	Pro	Glu	Pro	
2925					2930				2935				2940			
TAC	CTG	GCA	GTC	TAC	CTA	CAC	TCG	GAG	CCC	CGG	CCC	AAT	GAG	CAC	AAC	9002
Tyr	Leu	Ala	Val	Tyr	Leu	His	Ser	Glu	Pro	Arg	Pro	Asn	Glu	His	Asn	
2945				2950								2955				
TGC	TCG	GCT	AGC	AGG	AGG	ATC	CGC	CCA	GAG	TCA	CTC	CAG	GGT	GCT	GAC	9050
Cys	Ser	Ala	Ser	Arg	Arg	Ile	Arg	Pro	Glu	Ser	Leu	Gln	Gly	Ala	Asp	
2960					2965							2970				
CAC	CGG	CCC	TAC	ACC	TTC	TTC	ATT	TCC	CCG	GGG	AGC	AGA	GAC	CCA	GCG	9098
His	Arg	Pro	Tyr	Thr	Phe	Phe	Ile	Ser	Pro	Gly	Ser	Arg	Asp	Pro	Ala	
2975					2980						2985					
GGG	AGT	TAC	CAT	CTG	AAC	CTC	TCC	AGC	CAC	TTC	CGC	TGG	TCG	GCG	CTG	9146
Gly	Ser	Tyr	His	Leu	Asn	Leu	Ser	Ser	His	Phe	Arg	Trp	Ser	Ala	Leu	
2990					2995						3000					
CAG	GTG	TCC	GTG	GCG	CTG	TAC	ACG	TCC	CTG	TGC	CAG	TAC	TTC	AGC	GAG	9194
Gln	Val	Ser	Val	Gly	Leu	Tyr	Thr	Ser	Leu	Cys	Gln	Tyr	Phe	Ser	Glu	
3005					3010					3015			3020			
GAG	GAC	ATG	GTG	TGG	CGG	ACA	GAG	GGG	CTG	CTG	CCC	CTG	GAG	GAG	ACC	9242
Glu	Asp	Met	Val	Trp	Arg	Thr	Glu	Gly	Leu	Leu	Pro	Leu	Glu	Thr		
3025					3030						3035					
TCG	CCC	CGC	CAG	GCC	GTC	CTC	ACC	CGC	CAC	CTC	ACC	GCC	TTC	GCG	9290	
Ser	Pro	Arg	Gln	Ala	Val	Cys	Leu	Thr	Arg	His	Leu	Thr	Ala	Phe	Gly	
3040						3045						3050				
GCC	AGC	CTC	TTC	GTG	CCC	CCA	AGC	CAT	GTC	CGC	TTT	GTG	TTT	CCT	GAG	9338
Ala	Ser	Leu	Phe	Val	Pro	Pro	Ser	His	Val	Arg	Phe	Val	Phe	Pro	Glu	
3055					3060						3065					
CCG	ACA	GCG	GAT	GTA	AAC	TAC	ATC	GTC	ATG	CTG	ACA	TGT	GCT	GTG	TGC	9386
Pro	Thr	Ala	Asp	Val	Asn	Tyr	Ile	Val	Met	Leu	Thr	Cys	Ala	Val	Cys	
3070					3075						3080					
CTG	GTG	ACC	TAC	ATG	GTC	ATG	GCC	ATC	CTG	CAC	AAG	CTG	GAC	CAG	9434	
Leu	Val	Thr	Tyr	Met	Val	Met	Ala	Ala	Ile	Leu	His	Lys	Leu	Asp	Gln	
3085					3090					3095			3100			
TTG	GAT	GCC	AGC	CGG	GGC	CGC	GCC	ATC	CCT	TTC	TGT	GGG	CAG	CGG	GCG	9482
Leu	Asp	Ala	Ser	Arg	Gly	Arg	Ala	Ile	Pro	Phe	Cys	Gly	Gln	Arg	Gly	
3105						3110						3115				
CGC	TTC	AAG	TAC	GAG	ATC	CTC	GTC	AAG	ACA	GCC	TGG	GGC	CGG	GGC	TCA	9530
Arg	Phe	Lys	Tyr	Glu	Ile	Leu	Val	Lys	Thr	Gly	Trp	Gly	Arg	Gly	Ser	
3120						3125						3130				

## FIGURE 1N

GGT ACC ACG GCC CAC GTG GGC ATC ATG CTG TAT GGG GTG GAC AGC CGG Gly Thr Ala His Val Gly Ile Met Leu Tyr Gly Val Asp Ser Arg 3135 3140 3145	9578
AGC GGC CAC CGG CAC CTG GAC GGC GAC AGA GCC TTC CAC CGC AAC AGC Ser Gly His Arg His Leu Asp Gly Asp Arg Ala Phe His Arg Asn Ser 3150 3155 3160	9626
CTG GAC ATC TTC CGG ATC GCC ACC CCG CAC AGC CTG GGT AGC GTG TGG Leu Asp Ile Phe Arg Ile Ala Thr Pro His Ser Leu Gly Ser Val Trp 3165 3170 3175 3180	9674
AAG ATC CGA GTG TGG CAC GAC AAC AAA GGG CTC AGC CCT GCC TGG TTC Lys Ile Arg Val Trp His Asp Asn Lys Gly Leu Ser Pro Ala Trp Phe 3185 3190 3195	9722
CTG CAG CAC GTC ATC GTC AGG GAC CTG CAG ACG GCA CGC AGC GCC TTC Leu Gln His Val Ile Val Arg Asp Leu Gln Thr Ala Arg Ser Ala Phe 3200 3205 3210	9770
TTC CTG GTC AAT GAC TGG CTT TCG GTG GAG ACG GAG GCC AAC GGG GGC Phe Leu Val Asn Asp Trp Leu Ser Val Glu Thr Glu Ala Asn Gly Gly 3215 3220 3225	9818
CTG GTG GAG AAG GAG GTG CTG GCC GCG AGC GAC GCA GCC CTT TTG CGC Leu Val Glu Lys Glu Val Leu Ala Ala Ser Asp Ala Ala Leu Leu Arg 3230 3235 3240	9866
TTC CGG CGC CTG CTG GTG GCT GAG CTG CAG CGT GGC TTC TTT GAC AAG Phe Arg Arg Leu Leu Val Ala Glu Leu Gln Arg Gly Phe Phe Asp Lys 3245 3250 3255 3260	9914
CAC ATC TGG CTC TCC ATA TGG GAC CGG CCG CCT CGT AGC CGT TTC ACT His Ile Trp Leu Ser Ile Trp Asp Arg Pro Pro Arg Ser Arg Phe Thr 3265 3270 3275	9962
CGC ATC CAG AGG GCC ACC TGC TGC GTT CTC CTC ATC TGC CTC TTC CTG Arg Ile Gln Arg Ala Thr Cys Cys Val Leu Leu Ile Cys Leu Phe Leu 3280 3285 3290	10010
GGC GCC AAC GCC GTG TGG TAC GGG GCT GTT GGC GAC TCT GCC TAC AGC Gly Ala Asn Ala Val Trp Tyr Gly Ala Val Gly Asp Ser Ala Tyr Ser 3295 3300 3305	10058
ACG GGG CAT GTG TCC AGG CTG AGC CCG CTG AGC GTC GAC ACA GTC GCT Thr Gly His Val Ser Arg Leu Ser Pro Leu Ser Val Asp Thr Val Ala 3310 3315 3320	10106
GTT GGC CTG GTG TCC AGC GTG GTT GTC TAT CCC GTC TAC CTG GCC ATC Val Gly Leu Val Ser Ser Val Val Val Tyr Pro Val Tyr Leu Ala Ile 3325 3330 3335 3340	10154
CTT TTT CTC TTC CGG ATG TCC CGG AGC AAG GTG GCT GGG AGC CCG AGC Leu Phe Leu Phe Arg Met Ser Arg Ser Lys Val Ala Gly Ser Pro Ser 3345 3350 3355	10202
CCC ACA CCT GCC GGG CAG CAG GTG CTG GAC ATC GAC AGC TGC CTG GAC Pro Thr Pro Ala Gly Gln Gln Val Leu Asp Ile Asp Ser Cys Leu Asp 3360 3365 3370	10250

## FIGURE 10

TCG TCC GTG CTG GAC AGC TCC TTC CTC ACG TTC TCA GGC CTC CAC GCT Ser Ser Val Leu Asp Ser Ser Phe Leu Thr Phe Ser Gly Leu His Ala 3375 3380 3385	10298
GAG GCC TTT GTT GGA CAG ATG AAG AGT GAC TTG TTT CTG GAT GAT TCT Glu Ala Phe Val Gly Gln Met Lys Ser Asp Leu Phe Leu Asp Asp Ser 3390 3395 3400	10346
AAG AGT CTG GTG TGC TGG CCC TCC GGC GAG GGA ACG CTC AGT TGG CCG Lys Ser Leu Val Cys Trp Pro Ser Gly Glu Gly Thr Leu Ser Trp Pro 3405 3410 3415 3420	10394
GAC CTG CTC AGT GAC CCG TCC ATT GTG GGT AGC AAT CTG CGG CAG CTG Asp Leu Leu Ser Asp Pro Ser Ile Val Gly Ser Asn Leu Arg Gln Leu 3425 3430 3435	10442
GCA CGG GGC CAG GCG GGC CAT GGG CTG GGC CCA GAG GAG GAC GGC TTC Ala Arg Gly Gln Ala Gly His Gly Leu Gly Pro Glu Glu Asp Gly Phe 3440 3445 3450	10490
TCC CTG GCC AGC CCC TAC TCG CCT GCC AAA TCC TTC TCA GCA TCA GAT Ser Leu Ala Ser Pro Tyr Ser Pro Ala Lys Ser Phe Ser Ala Ser Asp 3455 3460 3465	10538
GAA GAC CTG ATC CAG CAG GTC CTT GCC GAG GGG GTC AGC AGC CCA GCC Glu Asp Leu Ile Gln Val Leu Ala Glu Gly Val Ser Ser Pro Ala 3470 3475 3480	10586
CCT ACC CAA GAC ACC CAC ATG GAA ACG GAC CTG CTC AGC AGC CTG TCC Pro Thr Gln Asp Thr His Met Glu Thr Asp Leu Leu Ser Ser Leu Ser 3485 3490 3495 3500	10634
AGC ACT CCT GGG GAG AAG ACA GAG ACG CTG GCG CTG CAG AGG CTG GGG Ser Thr Pro Gly Glu Lys Thr Glu Thr Leu Ala Leu Gln Arg Leu Gly 3505 3510 3515	10682
GAG CTG GGG CCA CCC AGC CCA GGC CTG AAC TGG GAA CAG CCC CAG GCA Glu Leu Gly Pro Pro Ser Pro Gly Leu Asn Trp Glu Gln Pro Gln Ala 3520 3525 3530	10730
GCG AGG CTG TCC AGG ACA GGA CTG GTG GAG GGT CTG CGG AAG CGC CTG Ala Arg Leu Ser Arg Thr Gly Leu Val Glu Gly Leu Arg Lys Arg Leu 3535 3540 3545	10778
CTG CCG GCC TGG TGT GCC TCC CTG GCC CAC GGG CTC AGC CTG CTC CTG Leu Pro Ala Trp Cys Ala Ser Leu Ala His Gly Leu Ser Leu Leu 3550 3555 3560	10826
G TG GCT GTG GCT GTG GCT GTC TCA GGG TGG GTG GGT GCG AGC TTC CCC Val Ala Val Ala Val Ala Val Ser Gly Trp Val Gly Ala Ser Phe Pro 3565 3570 3575 3580	10874
CCG GGC GTG AGT GTT GCG TGG CTC CTG TCC AGC AGC GCC AGC TTC CTG Pro Gly Val Ser Val Ala Trp Leu Leu Ser Ser Ser Ala Ser Phe Leu 3585 3590 3595	10922
GCC TCA TTC CTC GGC TGG GAG CCA CTG AAG GTC TTG CTG GAA GCC CTG Ala Ser Phe Leu Gly Trp Glu Pro Leu Lys Val Leu Leu Glu Ala Leu 3600 3605 3610	10970

## FIGURE 1P

TAC	TTC	TCA	CTG	GTG	GCC	AAG	CGG	CTG	CAC	CCG	GAT	GAA	GAT	GAC	ACC	11018	
Tyr	Phe	Ser	Leu	Val	Ala	Lys	Arg	Leu	His	Pro	Asp	Glu	Asp	Asp	Thr		
3615								3620				3625					
CTG	GTA	GAG	AGC	CCG	GCT	GTG	ACG	CCT	GTG	AGC	GCA	CGT	GTG	CCC	CGC	11066	
Leu	Val	Glu	Ser	Pro	Ala	Val	Thr	Pro	Val	Ser	Ala	Arg	Val	Pro	Arg		
3630							3635				3640						
GTA	CGG	CCA	CCC	CAC	GCC	TTT	GCA	CTC	TTC	CTG	GCC	AAG	GAA	GAA	GCC	11114	
Val	Arg	Pro	Pro	His	Gly	Phe	Ala	Leu	Phe	Leu	Ala	Lys	Glu	Glu	Ala		
3645						3650				3655			3660				
CGC	AAG	GTC	AAG	AGG	CTA	CAT	GGC	ATG	CTG	CGG	AGC	CTC	CTG	GTG	TAC	11162	
Arg	Lys	Val	Lys	Arg	Leu	His	Gly	Met	Leu	Arg	Ser	Leu	Leu	Val	Tyr		
3665								3670					3675				
ATG	CTT	TTT	CTG	CTG	GTG	ACC	CTG	CTG	GCC	AGC	TAT	GGG	GAT	GCC	TCA	11210	
Met	Leu	Phe	Leu	Leu	Val	Thr	Leu	Leu	Ala	Ser	Tyr	Gly	Asp	Ala	Ser		
3680							3685					3690					
TGC	CAT	GGG	CAC	GCC	TAC	CGT	CTG	CAA	AGC	GCC	ATC	AAG	CAG	GAG	CTG	11258	
Cys	His	Gly	His	Ala	Tyr	Arg	Leu	Gln	Ser	Ala	Ile	Lys	Gln	Glu	Leu		
3695							3700					3705					
CAC	AGC	CGG	GCC	TTC	CTG	GCC	ATC	ACG	CGG	TCT	GAG	GAG	CTC	TGG	CCA	11306	
His	Ser	Arg	Ala	Phe	Leu	Ala	Ile	Thr	Arg	Ser	Glu	Glu	Leu	Trp	Pro		
3710							3715				3720						
TGG	ATG	GCC	CAC	GTG	CTG	CTG	CCC	TAC	GTC	CAC	GGG	AAC	CAG	TCC	AGC	11354	
Trp	Met	Ala	His	Val	Leu	Leu	Pro	Tyr	Val	His	Gly	Asn	Gln	Ser	Ser		
3725							3730				3735			3740			
CCA	GAG	CTG	GGG	CCC	CCA	CGG	CTG	CGG	CAG	GTG	CGG	CTG	CAG	GAA	GCA	11402	
Pro	Glu	Leu	Gly	Pro	Pro	Arg	Leu	Arg	Gln	Val	Arg	Leu	Gln	Glu	Ala		
3745							3750					3755					
CTC	TAC	CCA	GAC	CCT	CCC	GGC	CCC	AGG	GTC	CAC	ACG	TGC	TCG	GCC	GCA	11450	
Leu	Tyr	Pro	Asp	Pro	Pro	Gly	Pro	Arg	Val	His	Thr	Cys	Ser	Ala	Ala		
3760							3765					3770					
GGA	GGC	TTC	AGC	ACC	AGC	GAT	TAC	GAC	GTT	GGC	TGG	GAG	AGT	CCT	CAC	11498	
Gly	Gly	Phe	Ser	Thr	Ser	Asp	Tyr	Asp	Val	Gly	Trp	Glu	Ser	Pro	His		
3775							3780					3785					
AAT	GGC	TCG	GGG	ACG	TGG	GCC	TAT	TCA	GCG	CCG	GAT	CTG	CTG	GGG	GCA	11546	
Asn	Gly	Ser	Gly	Thr	Trp	Ala	Tyr	Ser	Ala	Pro	Asp	Leu	Leu	Gly	Ala		
3790							3795					3800					
TGG	TCC	TGG	GGC	TCC	TGT	GCC	GTG	TAT	GAC	AGC	GGG	GGC	TAC	GTG	CAG	11594	
Trp	Ser	Trp	Gly	Ser	Cys	Ala	Val	Tyr	Asp	Ser	Gly	Gly	Tyr	Val	Gln		
3805							3810				3815			3820			
GAG	CTG	GGC	CTG	AGC	CTG	GAG	GAG	AGC	CGC	GAC	CGG	CTG	CGC	TTC	CTG	11642	
Glu	Leu	Gly	Leu	Ser	Leu	Glu	Glu	Ser	Arg	Asp	Arg	Leu	Arg	Phe	Leu		
3825							3830					3835					
CAG	CTG	CAC	AAC	TGG	CTG	GAC	AAC	AGG	AGC	CGC	GCT	GTG	TTC	CTG	GAG	11690	
Gln	Leu	His	Asn	Trp	Leu	Asp	Asn	Arg	Ser	Arg	Arg	Ala	Val	Phe	Leu	Glu	
3840							3845					3850					

## FIGURE 1Q

CTC ACG CGC TAC AGC CCG GCC GTG GGG CTG CAC GCC GCC GTC ACG CTG Leu Thr Arg Tyr Ser Pro Ala Val Gly Leu His Ala Ala Val Thr Leu 3855 3860 3865	11738
CGC CTC GAG TTC CCG GCG GCC GGC CGC GCC CTG GCC GCC CTC AGC GTC Arg Leu Glu Phe Pro Ala Ala Gly Arg Ala Leu Ala Ala Leu Ser Val 3870 3875 3880	11786
CGC CCC TTT GCG CTG CGC CGC CTC AGC GCG GGC CTC TCG CTG CCT CTG Arg Pro Phe Ala Leu Arg Arg Leu Ser Ala Gly Leu Ser Leu Pro Leu 3885 3890 3895 3900	11834
CTC ACC TCG GTG TGC CTG CTG TTC GCC GTG CAC TTC GCC GTG GCC GTG GCC Leu Thr Ser Val Cys Leu Leu Phe Ala Val His Phe Ala Val Ala 3905 3910 3915	11882
GAG GCC CGT ACT TGG CAC AGG GAA GGG CGC TGG CGC GTG CTG CGG CTC Glu Ala Arg Thr Trp His Arg Glu Gly Arg Trp Arg Val Leu Arg Leu 3920 3925 3930	11930
GGA GCC TGG GCG CGG TGG CTG CTG GTG GCG CTG ACG GCG GCC ACG GCA Gly Ala Trp Ala Arg Trp Leu Leu Val Ala Leu Thr Ala Ala Thr Ala 3935 3940 3945	11978
CTG GTA CGC CTC GCC CAG CTG GGT GCC GCT GAC CGC CAG TGG ACC CGT Leu Val Arg Leu Ala Gln Leu Gly Ala Ala Asp Arg Gln Trp Thr Arg 3950 3955 3960	12026
TTC GTG CGC GGC CGC CCG CGC CGC TTC ACT AGC TTC GAC CAG GTG GCG Phe Val Arg Gly Arg Pro Arg Arg Phe Thr Ser Phe Asp Gln Val Ala 3965 3970 3975 3980	12074
CAG CTG AGC TCC GCA GCC CGT GGC CTG GCG GCC TCG CTG CTC TTC CTG Gln Leu Ser Ser Ala Ala Arg Gly Leu Ala Ala Ser Leu Leu Phe Leu 3985 3990 3995	12122
CTT TTG GTC AAG GCT GCC CAG CAG CTA CGC TTC GTG CGC CAG TGG TCC Leu Leu Val Lys Ala Ala Gln Gln Leu Arg Phe Val Arg Gln Trp Ser 4000 4005 4010	12170
GTC TTT GGC AAG ACA TTA TGC CGA GCT CTG CCA GAG CTC CTG GGG GTC Val Phe Gly Lys Thr Leu Cys Arg Ala Leu Pro Glu Leu Leu Gly Val 4015 4020 4025	12218
ACC TTG GGC CTG GTG GTG CTC GGG GTA GCC TAC GCA CAG CTG GCC ATC Thr Leu Gly Leu Val Val Leu Gly Val Ala Tyr Ala Gln Leu Ala Ile 4030 4035 4040	12266
CTG CTC GTG TCT TCC TGT GTG GAC TCC CTC TGG AGC GTG GCC CAG GCC Leu Leu Val Ser Ser Cys Val Asp Ser Leu Trp Ser Val Ala Gln Ala 4045 4050 4055 4060	12314
CTG TTG GTG CTG TGC CCT GGG ACT GGG CTC TCT ACC CTG TGT CCT GCC Leu Leu Val Leu Cys Pro Gly Thr Gly Leu Ser Thr Leu Cys Pro Ala 4065 4070 4075	12362
GAG TCC TGG CAC CTG TCA CCC CTG CTG TGT GTG GGG CTC TGG GCA CTG Glu Ser Trp His Leu Ser Pro Leu Leu Cys Val Gly Leu Trp Ala Leu 4080 4085 4090	12410

## FIGURE 1R

CGG CTG TGG GGC GCC CTA CGG CTG GGG GCT GTT ATT CTC CGC TGG CGC 12458  
 Arg Leu Trp Gly Ala Leu Arg Leu Gly Ala Val Ile Leu Arg Trp Arg  
 4095 4100 4105

TAC CAC GCC TTG CGT GGA GAG CTG TAC CGG CCG GCC TGG GAG CCC CAG 12506  
 Tyr His Ala Leu Arg Gly Glu Leu Tyr Arg Pro Ala Trp Glu Pro Gln  
 4110 4115 4120

GAC TAC GAG ATG GTG GAG TTG TTC CTG CGC AGG CTG CGC CTC TGG ATG 12554  
 Asp Tyr Glu Met Val Glu Leu Phe Leu Arg Arg Leu Arg Leu Trp Met  
 4125 4130 4135 4140

GGC CTC AGC AAG GTC AAG GAG TTC CGC CAC AAA GTC CGC TTT GAA GGG 12602  
 Gly Leu Ser Lys Val Lys Glu Phe Arg His Lys Val Arg Phe Glu Gly  
 4145 4150 4155

ATG GAG CCG CTG CCC TCT CGC TCC TCC AGG GGC TCC AAG GTA TCC CCG 12650  
 Met Glu Pro Leu Pro Ser Arg Ser Ser Arg Gly Ser Lys Val Ser Pro  
 4160 4165 4170

GAT GTG CCC CCA CCC AGC GCT GGC TCC GAT GCC TCG CAC CCC TCC ACC 12698  
 Asp Val Pro Pro Pro Ser Ala Gly Ser Asp Ala Ser His Pro Ser Thr  
 4175 4180 4185

TCC TCC AGC CAG CTG GAT GGG CTG AGC GTG AGC CTG GGC CGG CTG GGG 12746  
 Ser Ser Gln Leu Asp Gly Leu Ser Val Ser Leu Gly Arg Leu Gly  
 4190 4195 4200

ACA AGG TGT GAG CCT GAG CCC TCC CGC CTC CAA GCC GTG TTC GAG GCC 12794  
 Thr Arg Cys Glu Pro Glu Pro Ser Arg Leu Gln Ala Val Phe Glu Ala  
 4205 4210 4215 4220

CTG CTC ACC CAG TTT GAC CGA CTC AAC CAG GCC ACA GAG GAC GTC TAC 12842  
 Leu Leu Thr Gln Phe Asp Arg Leu Asn Gln Ala Thr Glu Asp Val Tyr  
 4225 4230 4235

CAG CTG GAG CAG CAG CTG CAC AGC CTG CAA GGC CGC AGG AGC AGC CGG 12890  
 Gln Leu Glu Gln Gln Leu His Ser Leu Gln Gly Arg Arg Ser Ser Arg  
 4240 4245 4250

GCG CCC GCC GGA TCT TCC CGT GGC CCA TCC CCG GGC CTG CGG CCA GCA 12938  
 Ala Pro Ala Gly Ser Ser Arg Gly Pro Ser Pro Gly Leu Arg Pro Ala  
 4255 4260 4265

CTG CCC AGC CGC CTT GCC CGG GCC AGT CGG GGT GTG GAC CTG GCC ACT 12986  
 Leu Pro Ser Arg Leu Ala Arg Ala Ser Arg Gly Val Asp Leu Ala Thr  
 4270 4275 4280

GGC CCC AGC AGG ACA CCC CTT CGG GCC AAG AAC AAG GTC CAC CCC AGC 13034  
 Gly Pro Ser Arg Thr Pro Leu Arg Ala Lys Asn Lys Val His Pro Ser  
 4285 4290 4295 4300

AGC ACT TAGTCCTCCT TCCTGGCGGG GGTGGGCCGT GGAGTCGGAG TGGACACCGC 13090  
 Ser Thr

TCAGTATTAC TTTCTGCCGC TGTCAAGGCC GAGGGCCAGG CAGAATGGCT GCACGTAGGT 13150

TCCCCAGAGA GCAGGCAGGG GCATCTGTCT GTCTGTGGC TTCAGCACTT TAAAGAGGCT 13210

GTGTGCCAA CCAGGACCCA GGGTCCCCCTC CCCAGCTCCC TTGGGAAGGA CACAGCAGTA 13270

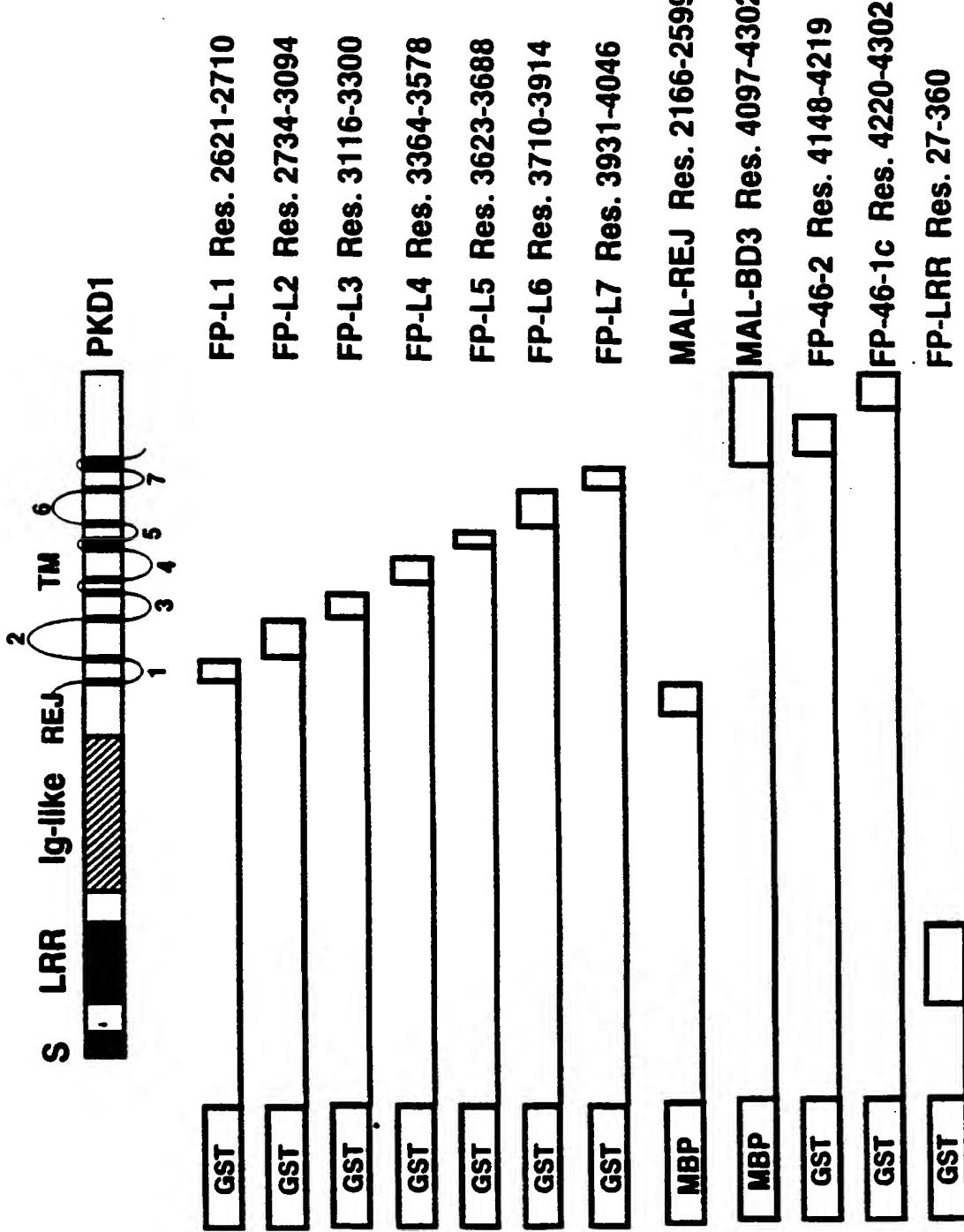
## FIGURE 1S

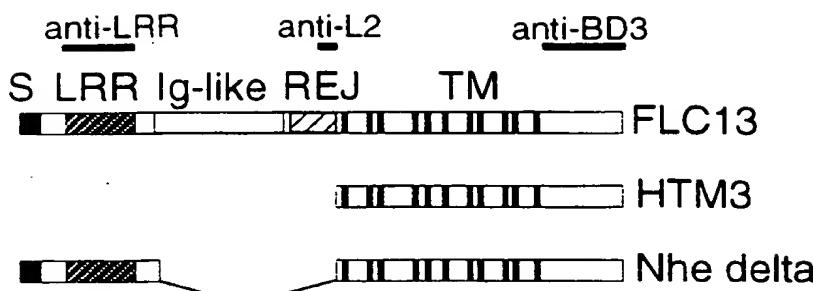
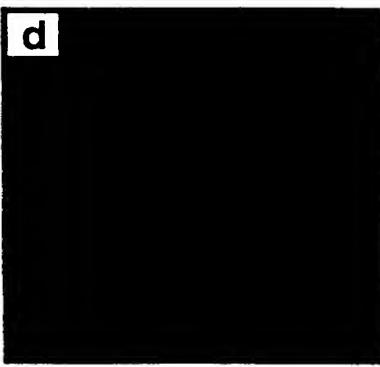
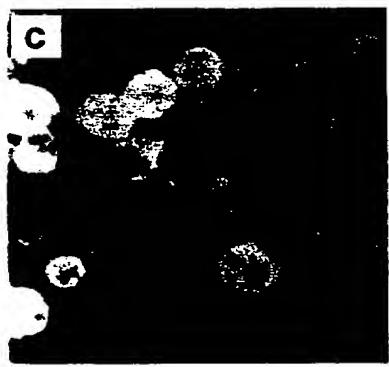
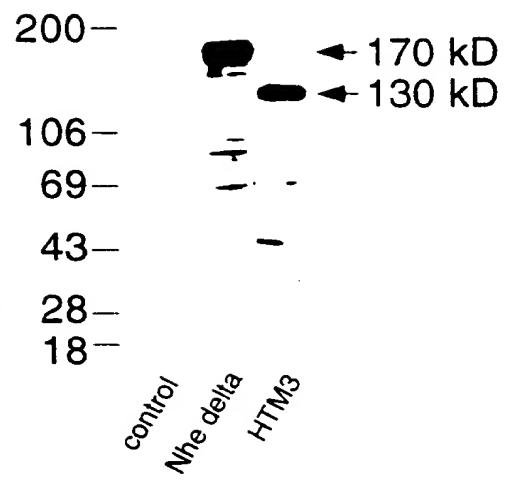
TTGGACGGTT TCTAGCCTCT GAGATGCTAA TTTATTTCCC CGAGTCCTCA GGTACAGCGG 13330  
GCTGTGCCCG GCCCCACCCC CTGGGCAGAT GTCCCCCACT GCTAAGGCTG CTGGCTTCAG 13390  
GGAGGGTTAG CCTGCACCGC CGCCACCCCTG CCCCTAAGTT ATTACCTCTC CAGTTCCCTAC 13450  
CGTACTCCCT GCACCGTCTC ACTGTGTGTC TCGTGTCACT AATTATATG GTGTTAAAAT 13510  
GTGTATATTT TTGTATGTCA CTATTTACAC TAGGGCTGAG GGGCCTGCGC CCAGAGCTGG 13570  
CCTCCCCCAA CACCTGCTGC GCTTGGTAGG TGTGGTGGCG TTATGGCAGC CCGGCTGCTG 13630  
CTTGGATGCG AGCTTGGCCT TGGGCCGGTG CTGGGGCAC AGCTGTCTGC CAGGCACCTCT 13690  
CATCACCCCA GAGGCCTTGT CATCCTCCCT TGCCCCAGGC CAGGTAGCAA GAGAGCAGCG 13750  
CCCAGGCCTG CTGGCATCAG GTCTGGCAA GTAGCAGGAC TAGGCATGTC AGAGGACCCC 13810  
AGGGTGGTTA GAGGAAAAGA CTCCCTCTGG GGGCTGGCTC CCAGGGTGGA GGAAGGTGAC 13870  
TGTGTGTGTC TGTGTGTGCG CGCGCCACG CGCGAGTGTG CTGTATGGCC CAGGCAGCCT 13930  
CAAGGCCCTC GGAGCTGGCT GTGCCTGCTT CTGTGTACCA CTTCTGTGGG CATGGCCGCT 13990  
TCTAGAGCCT CGACACCCCC CCAACCCCG CACCAAGCAG ACAAAAGTCAA TAAAAGAGCT 14050  
GTCTGACTGC 14060

# Polyclonal antibodies to domain specific polycystin fusion proteins

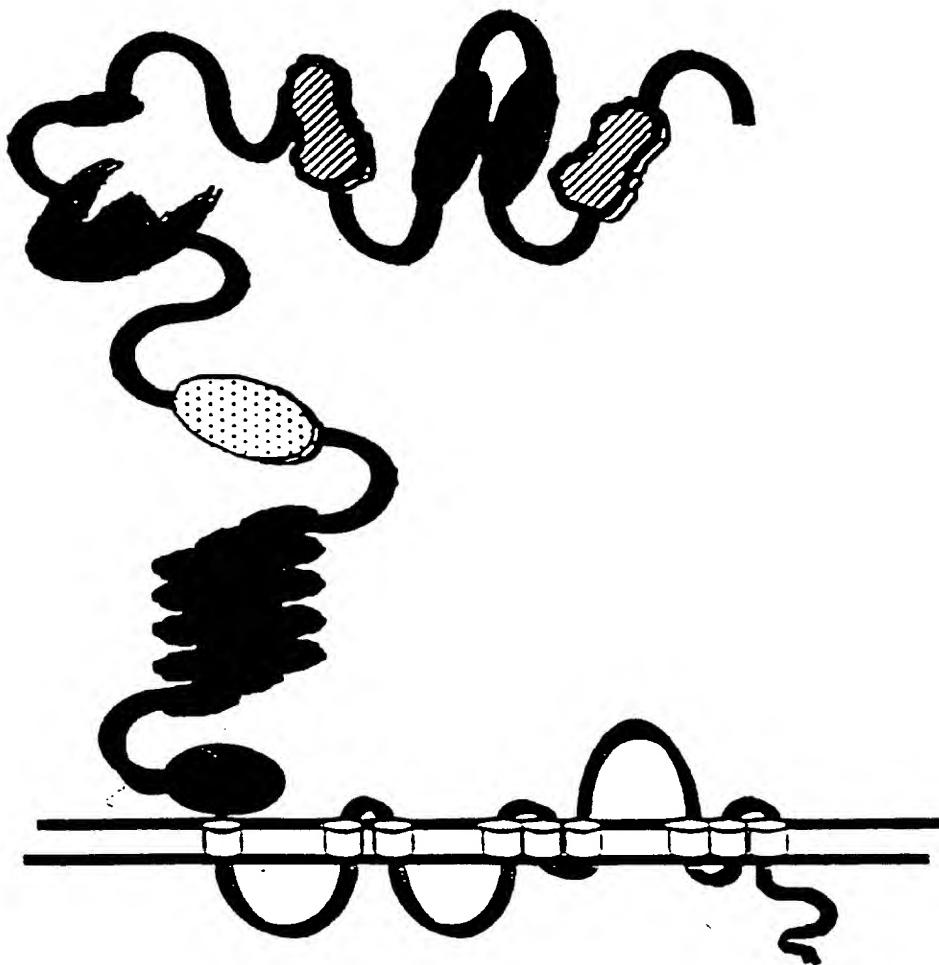
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FIGURE 2



**a****b****FIGURE 3**

## FIGURE 4



## KEY

- N - amino flanking region
- C - carboxy flanking region
- LRR - leucine-rich repeats
- Ig-like domains
- C-type lectin domain
- REJ - domain with homology to the receptor for egg jelly
- LDL - like domain
- TM - putative transmembrane region

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FIGURE 5

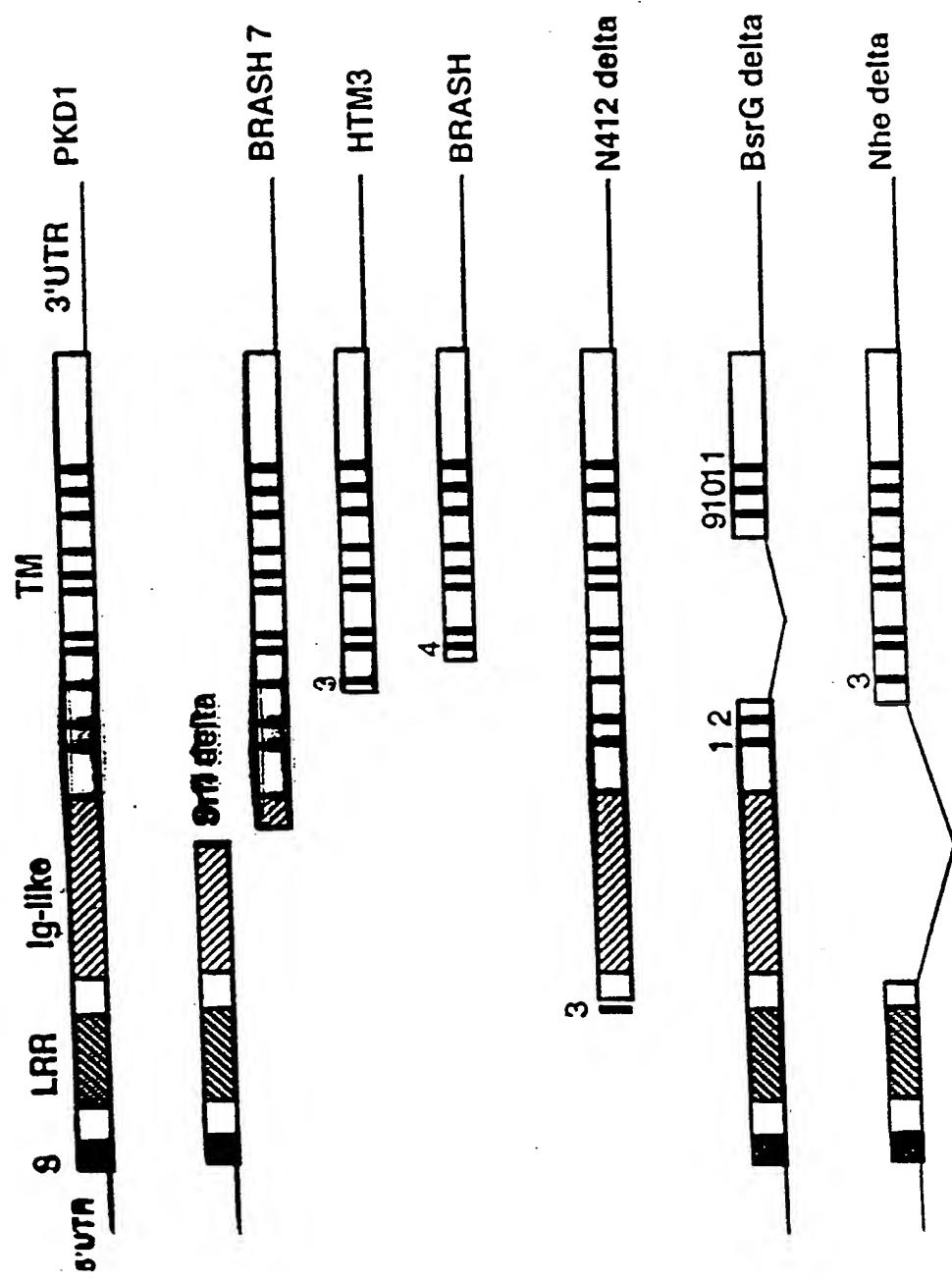
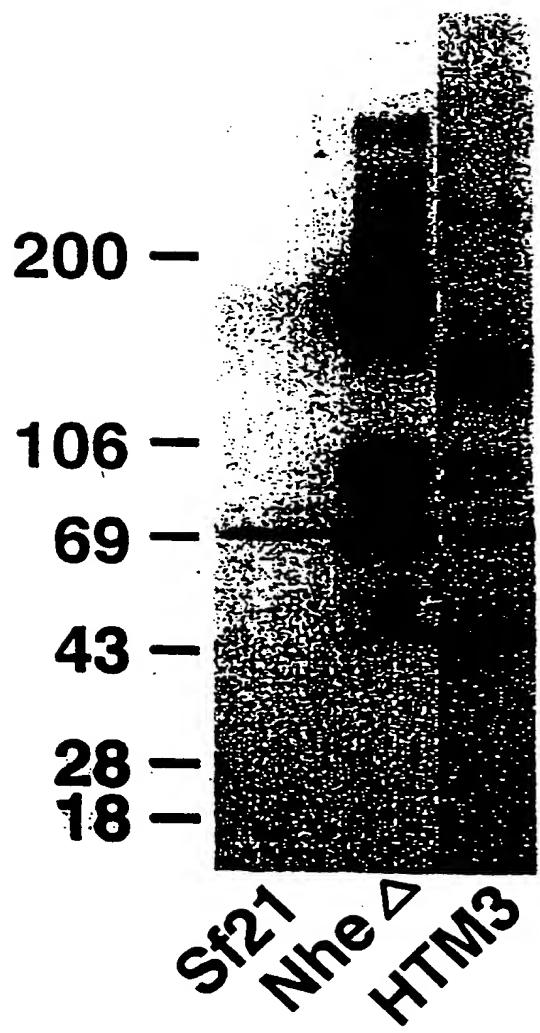
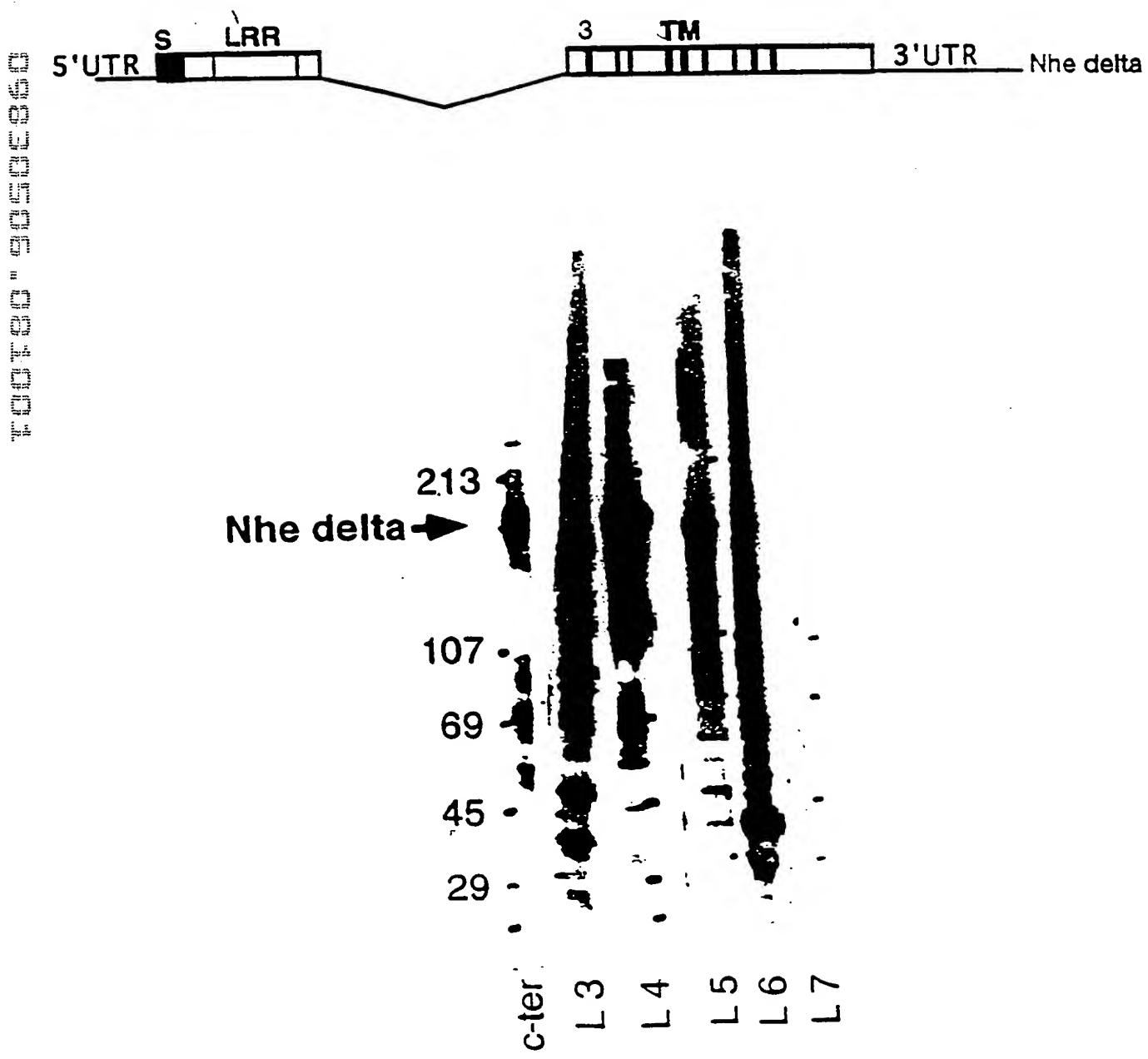


FIGURE 6



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## FIGURE 7



## FIGURE 8

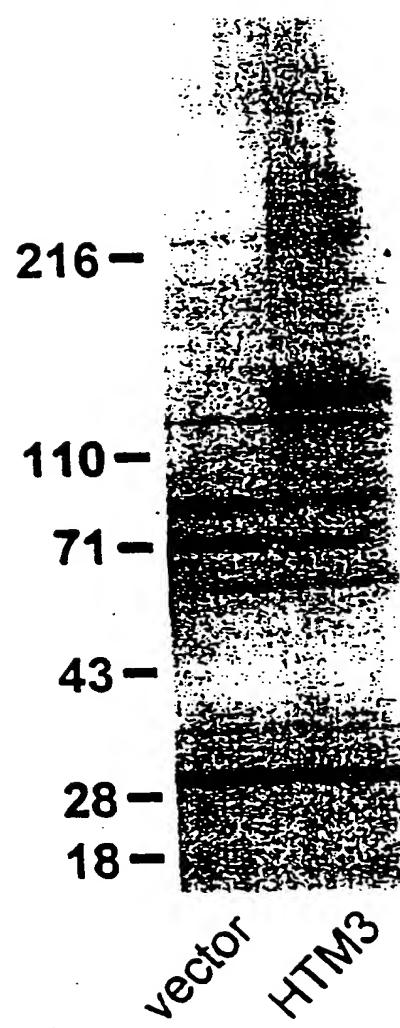
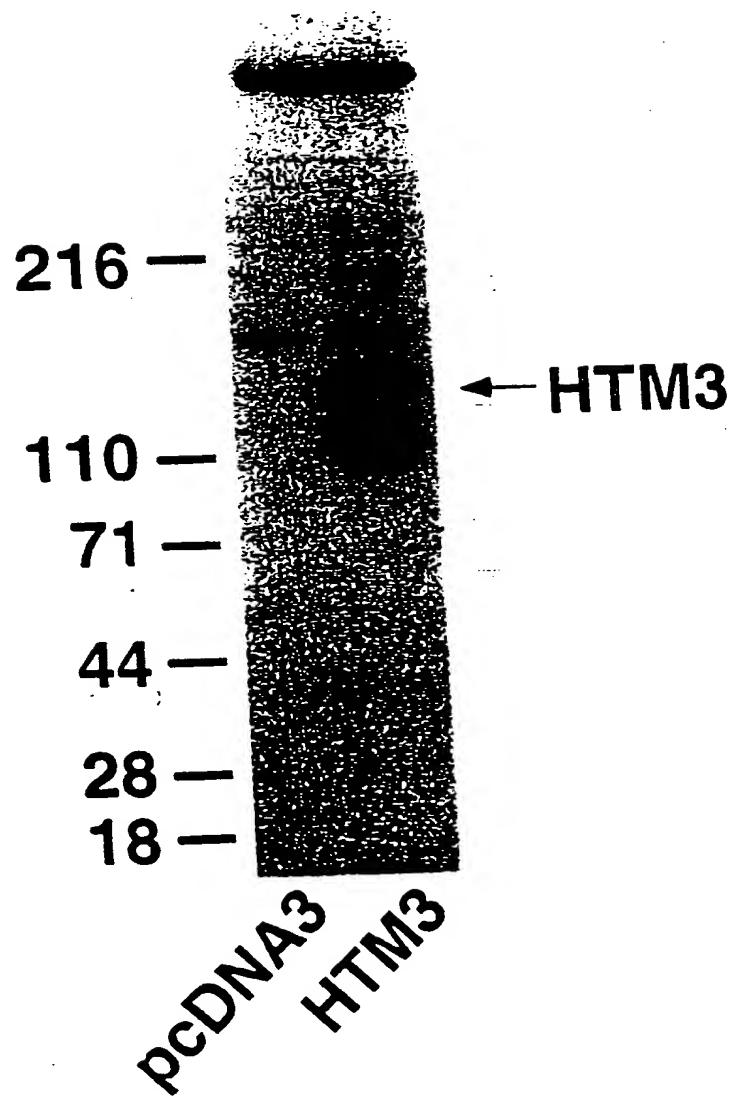


FIGURE 9



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FIGURE 10A

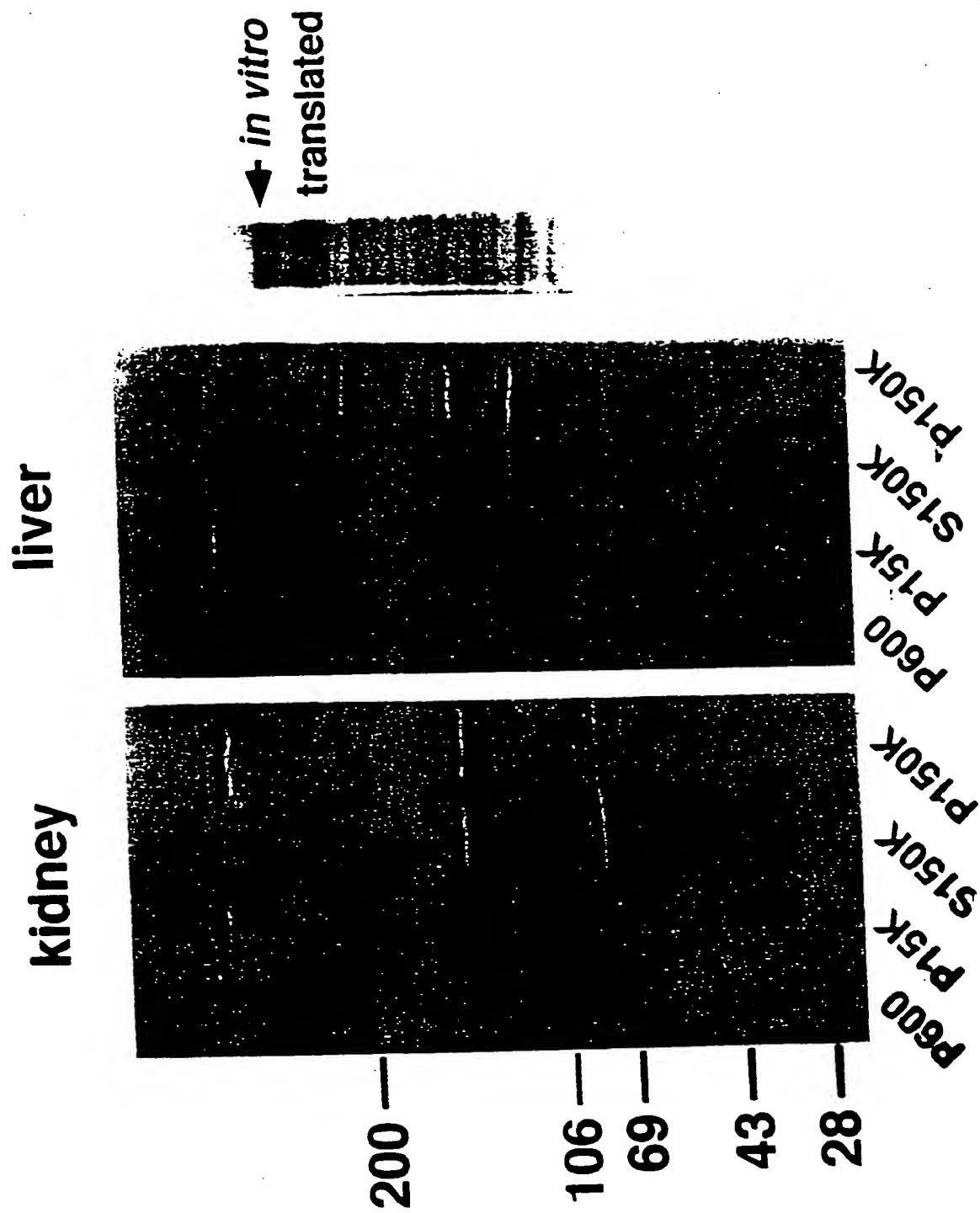


FIGURE 10B

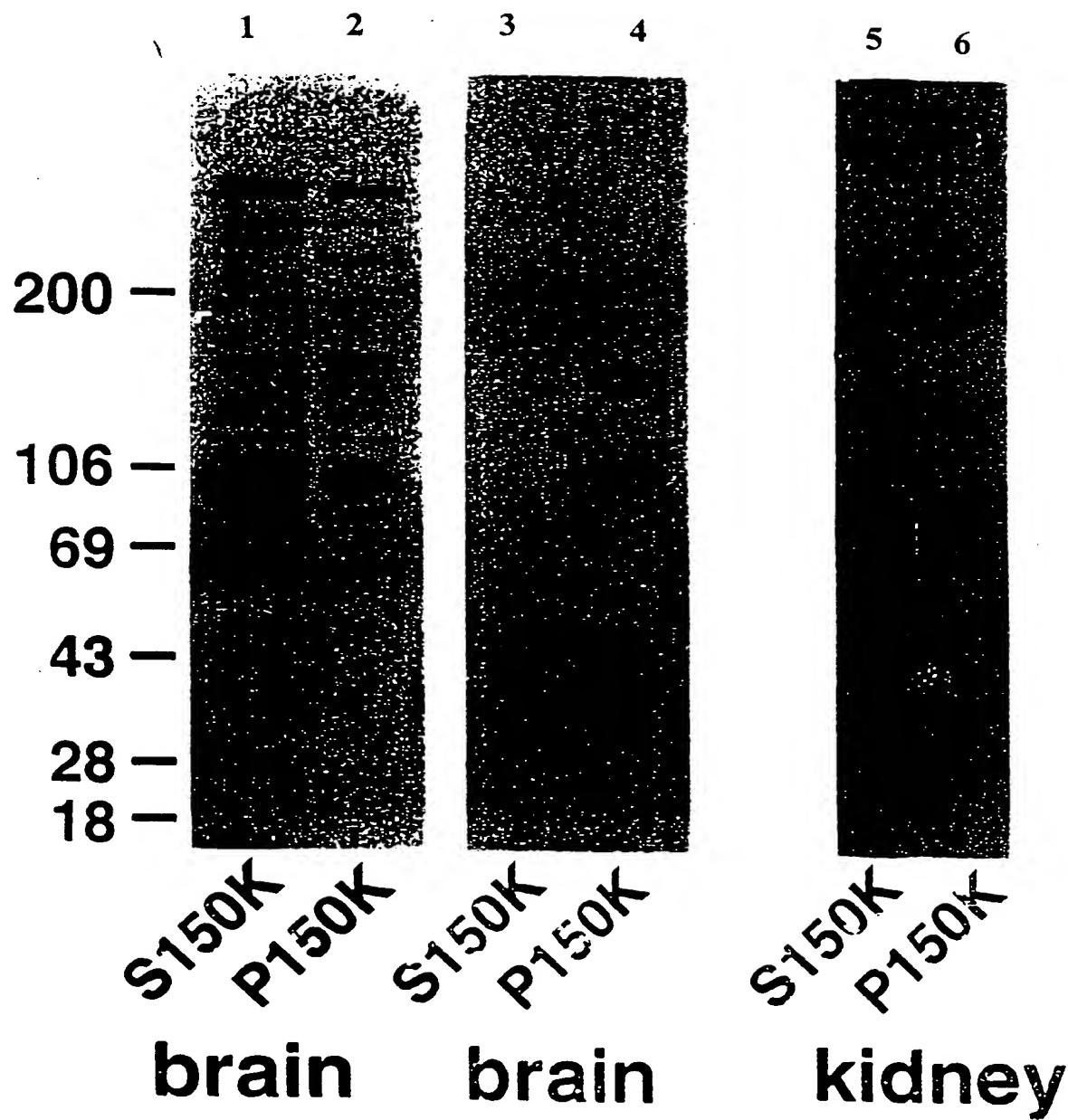


FIGURE 10C

kidney  
brain

200-

111-

73-

47-

28-

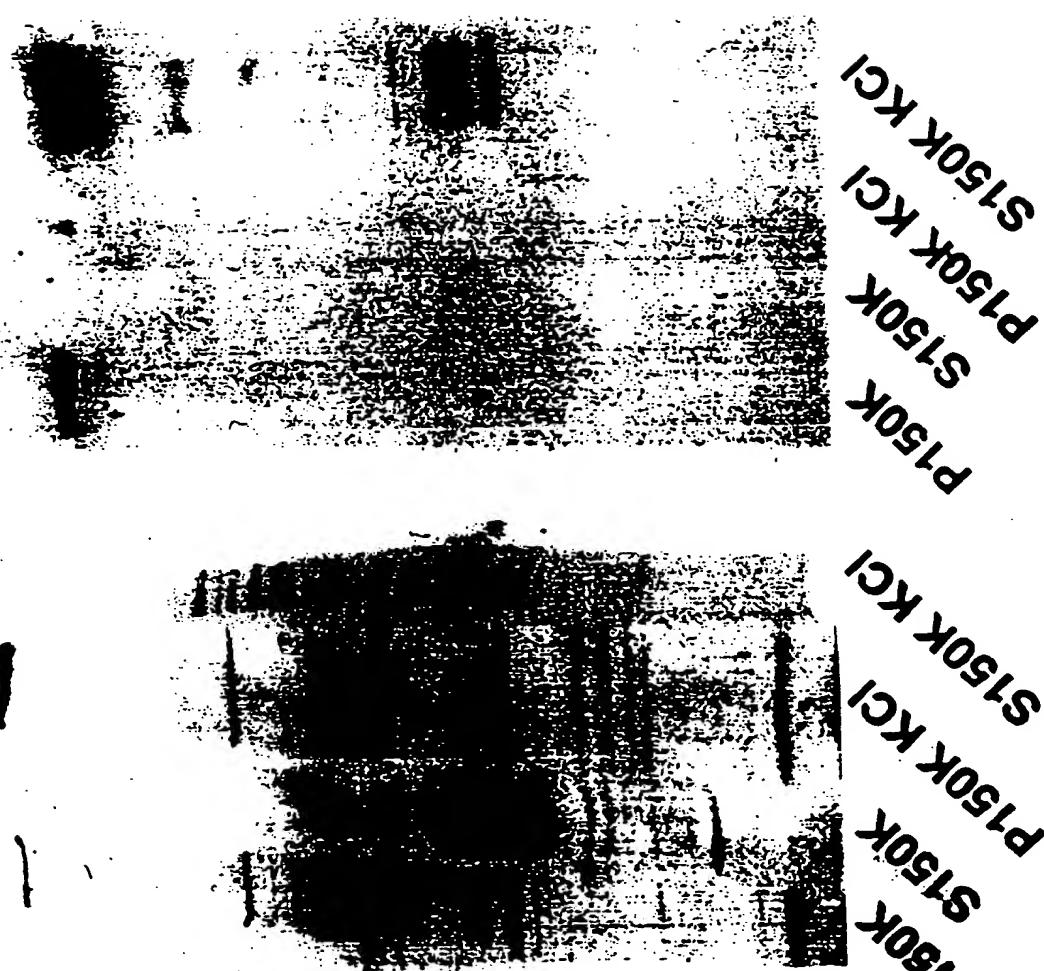
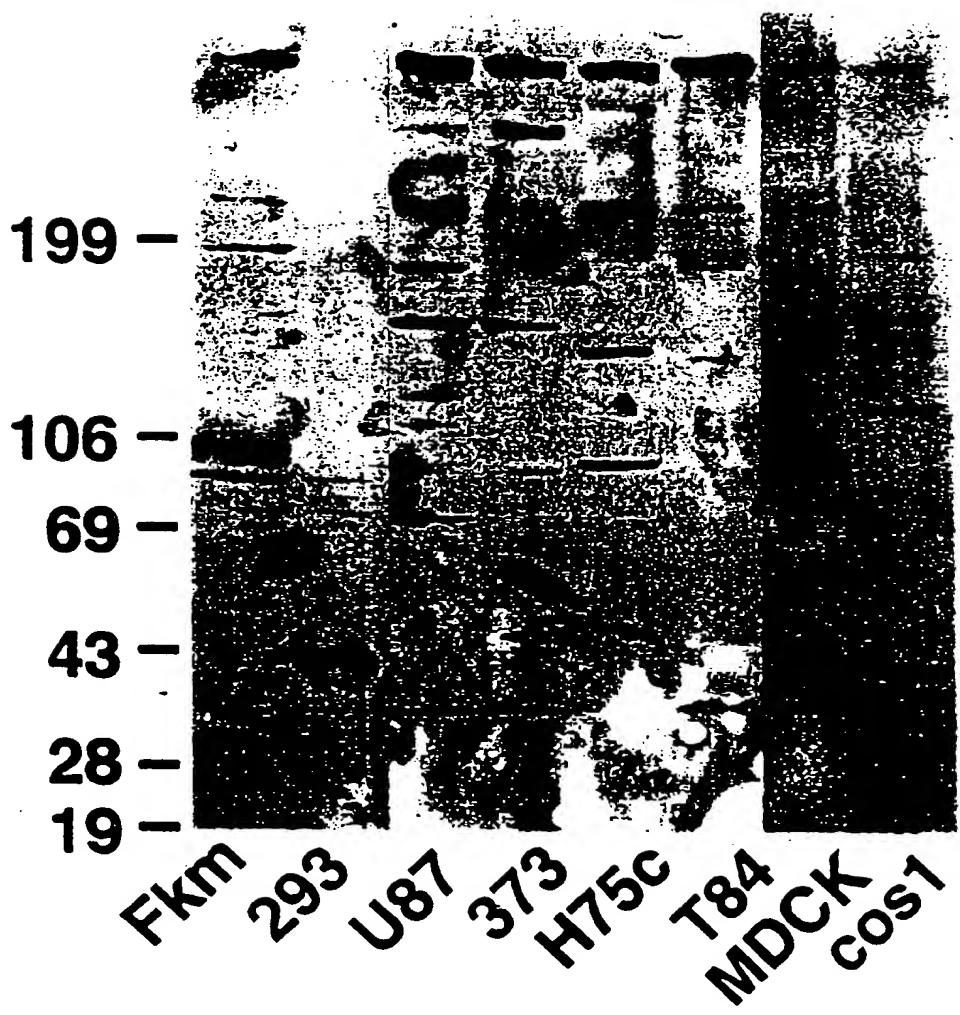


FIGURE 10D





## FIGURE 11

FIGURE 12

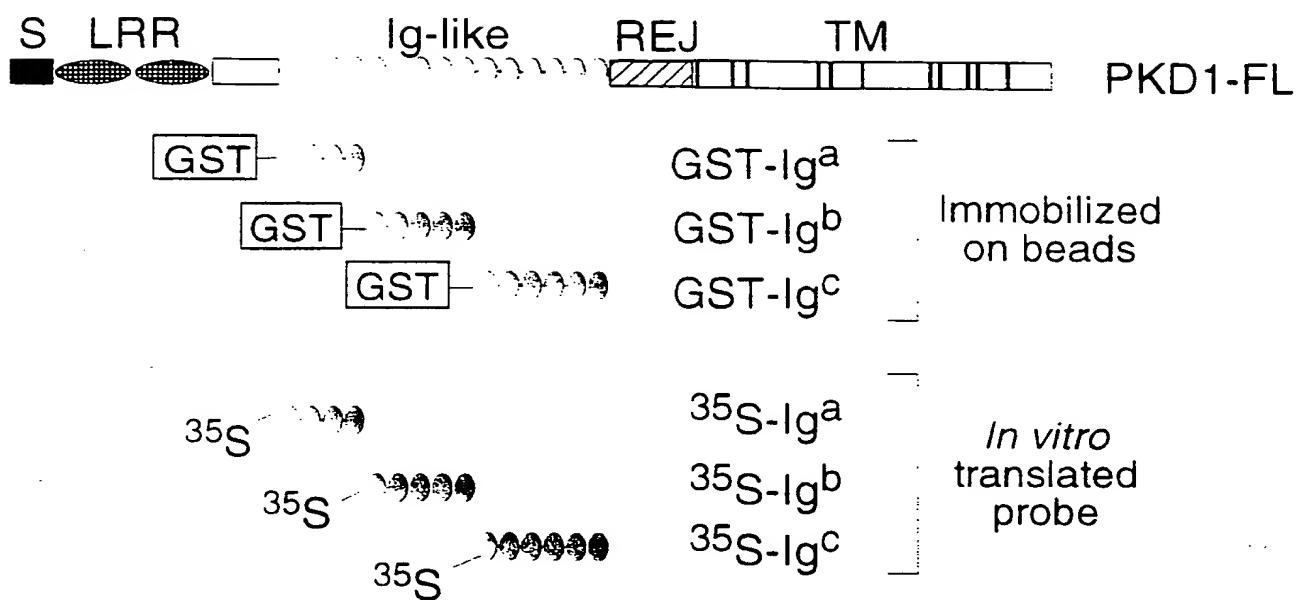
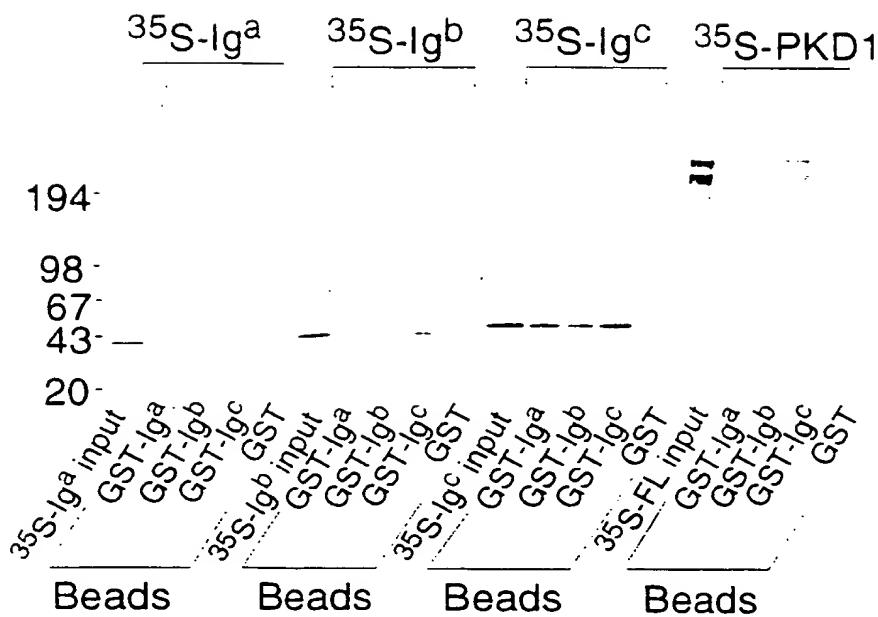
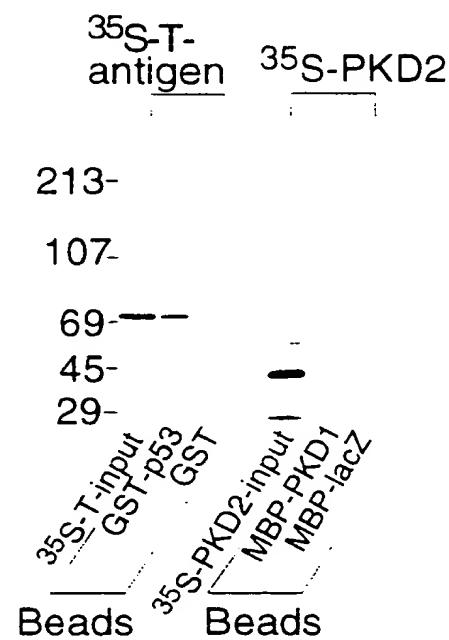
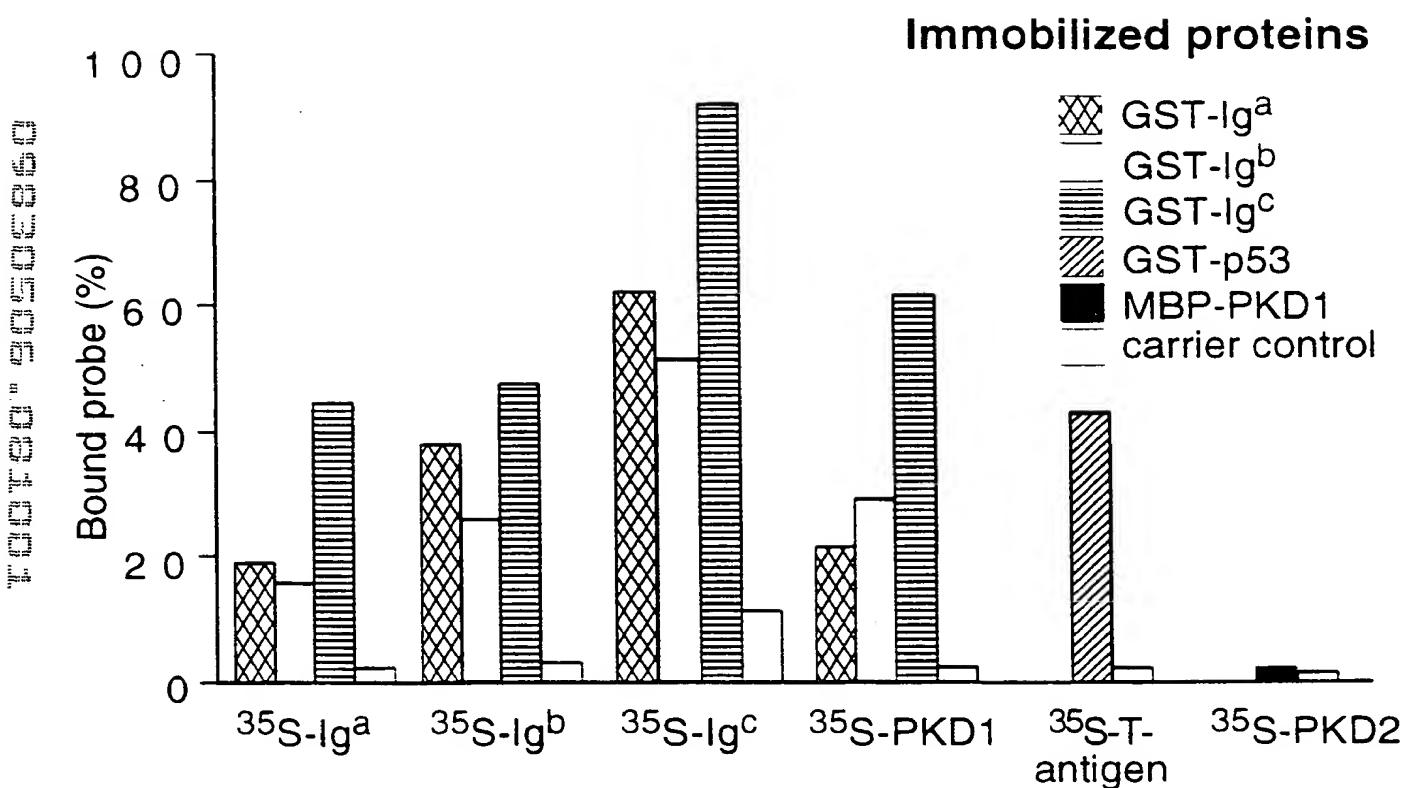
**a****b****c**

FIGURE 13



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**FIGURE 14**

media alone

media + GST

media + GST-Ig<sup>abc</sup>**a**

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**b**